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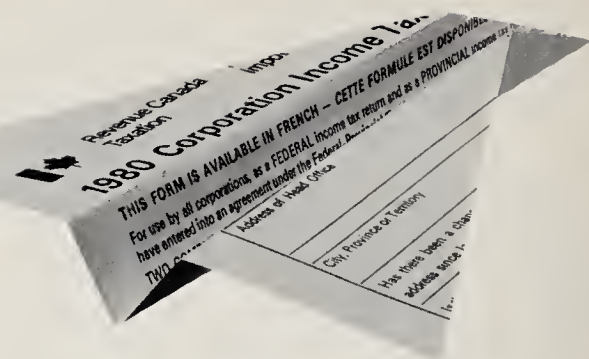
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THE CHALLENGE



I feel a sense of profound gratitude for the many indirect benefits I have received from this University since I entered some 50 years ago. Teachers like Harold Innis, Donald Creighton, Irene Spry, George Glazebrook, Alex Brady and Vincent Bladen—to mention a few—started me on the road to my intellectual adventure in Canada.

The learning of these men and women was nourished by research. For successful education, there must be a certain freshness in the knowledge dealt with. Knowledge does not keep any better than fish. To be palatable it must come with the freshness of immediate importance and relevance.

To unite people in a co-operative effort is the highest calling. In this world, where the principles of combat and co-operation are constantly in contention, there is a need for catalysts that promote the latter. But co-operation about what, and to what end? In a society where the technology of communication has intertwined our fortunes without giving us the perception of common interests, and where, therefore, disunity reigns, we need to face the challenge of co-operation on every level of national and international life.

Foremost, there is need for co-operation among all those concerned with what is happening with the universities in this province. If one considers the universities have trained the intellectual pioneers of our civilization then surely they should be regarded as the centres from which men and women should confront and seek to overcome the confusion and dangers of our times. Yet it is just when this should be made increasingly available to the service of the community that the universities are being made the targets of cuts in real support which could do irreparable harm to the university system; cuts the real effects of which cannot be represented on a balance sheet.

It has been said that “the aim of civilization is to make politics superfluous and science and art indispensable”. This perhaps explains why there is such a need for federal and provincial governments to get their acts together in planning and financing research and development. A report of the Minister of State for Science and Technology (MOSST) last year noted that the lower level of research and development in Canada, relative to other industrialized countries, has reduced the competitive advantage of Canada in the sale of technology-intensive products on world markets. This affects industrial growth and hence employment as well. The role of the universities in contributing to the national effort in research and development is basic and essential if the country is to compete effectively. To be competitive in technologically intensive industries as well as in its natural resources, Canada must support its universities, on which our country depends to an exceptional extent.

I do not want to leave you with the impression that education at university should consist primarily of research and specialist training. I hope that those graduating today have not funnelled all their energies into the classroom. As

Samuel Johnson said, “our brightest blazes of gladness are commonly kindled by unexpected sparks”. The time at university coincides with the individual’s most adventurous and exciting period of self-discovery, as well as with developing maturity in his or her discipline. Universities have to be places for free time, for free thought and play.

Much has changed since I sat where you sit tonight. What has been added to education in the contemporary setting is the necessity to adapt to the new technologies and their implications. Twenty-five years ago Bertrand Russell and Einstein warned that “we have to learn to think in a new way” in the nuclear age. With the governments of the world arming themselves at a rate of \$500 billions annually, no wonder many nations today feel they lack resources for education. Inflation, moreover, fed by these unproductive expenditures, contributes to the confusion that reigns in the economy and increases the possibility of conflict among nations.

What is the role of the University, as we confront these prodigious challenges? The trend toward the practical in education tends to eclipse the traditional role of helping to learn to distinguish between good and bad ideas and values. No search is more painful and less immediately practical than the search for truth. When we downplay this search, mankind is the poorer. The community is the poorer.

Universities have to meet the demand of the new while preserving the values of the old. Universities accessible to all in open competition, and to progress by merit, hardly deserve the charge of “élitism” sometimes levelled by those who wish universities to become even more than they are the victims of austerity. Austerity implies lower expectations of worldly goods. If it refers to putting some restraints upon the profligate use of resources, then it is for all in our society. Austerity in the past has also meant prudence, asceticism, a certain carefulness with the life given by our Creator.

In this sense, universities should look to the preservation of all the values of our civilization—justice, truth, beauty, goodness as well as “austerity”—lest we leave ourselves open to the far more serious charge contained in that classic definition of the cynic by Oscar Wilde: “a man who knows the price of everything and the value of nothing”. A university, to retain the respect of the community, must stand for and uphold the values that do not change. It must also be the intellectual beacon in the community—in search of enlightenment.

Universities cannot be isolated from the communities they serve. If we meet these challenges, as I’m sure we will, the University of Toronto will better serve not only itself but Canadians as a whole.

— George Ignatieff

This commentary has been excerpted from the installation address of the University of Toronto’s 27th Chancellor. The ceremony took place on November 26 in Convocation Hall.

Decades ago A.Y. Jackson painted Nellie Lake, using oil on canvas to capture and preserve the beauty and serenity of the lake. The lake in turn provided Jackson with the trout on which he lived.

Both the artist and the lake are now dead.

Jackson died after a long and respected creative career. Nellie Lake died in its youth. The fish that once thrived in its waters have perished—slowly, steadily, virtually unnoticed. They were victims of acidification from rain and snow which had been polluted by sulphur and nitrogen oxides from smelters and power plants many miles away.



Nellie Lake is only one of 140 Ontario lakes that have died because of acid rain. If immediate action is not taken, as many as 48,500 more may succumb to the ravages of acidification over the next 20 years.

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ACID RAIN

THE NATURAL WAY TO GET HIGH

*A do-it-yourself drug
that's potent, legal
and absolutely free!*

By Naomi Mallovy

Whoosh down a mountainside, skis barely touching the snow, nearly flying—speed, excitement, icy wind, danger. Senses heightened, your mind soars too, catching you in an exhilaration that stays long after the run is ended. You can get as high from jogging, sailing, listening to music, or clinching a deal. What gives you this euphoric lift of spirits, this natural high that never came from bottle or pill? Your great body? Your great mind? Your soul? Probably your endorphins.

You'll be hearing a lot about endorphins in the next few years. They can turn you on, soothe your nerves, change your behaviour, even affect your sex life. Potent, legal and absolutely free! Their remarkable powers are only just being realized and with this knowledge, we're on the threshold, not just of a new era in medicine, but of a new way of living. It won't be with drugs and narcotics but with the very opiates of the mind itself. They were always there, but now we've discovered them, these amazing drugs of the mind with powers we never dreamt of.

An endorphin is a peptide, a small protein made up of about 30 amino acids (a normal protein has 1,000 or so). It's one of the chemicals or hormones manufactured by the brain, and indirectly the pituitary, which, alone and in concert, affect our feelings and behaviour. So far more than 100 peptides have been discovered, including those affecting sex, sleep and memory. What makes the endorphins especially interesting is their ability to relieve pain and to promote feelings of well-being.

Research on endorphins is taking place in labs around the world. At the University of Toronto, advances are being made on several fronts.

Glen Van Loon, associate professor of medicine and physiology, is one of those involved. "About 10 years ago," he explains, "researchers found that if they put morphine in a test tube with brain cells from an experimental animal, the morphine would bind with the brain cells and produce chemical effects. Now if you think about it, it doesn't seem

very reasonable that the Deity, in His wisdom, would have designed a binding site on a brain cell particularly for the seeds of the poppy. It made people think that there probably was a substance, something like morphine, that existed in the brain itself. Then it became a matter of looking for a chemical within the brain that normally bound to such receptors. Five years ago such chemicals were found. They were called endorphins; they are the brain's natural opiates and they've been found to play a role in many types of behaviour."

Bruce Pomeranz, medical doctor, zoologist and endorphin researcher, explains further. "Take a soldier on the battlefield. He can demonstrate tremendous feats of heroism and endure great pain. His leg may be blown off but he doesn't feel it. He says, 'look after that guy first,' and the other guy is hardly injured. It's the same thing with a football player—he can finish a game with a broken leg before he stops to feel the pain. In each case, the stress is an analgesic; it activates the endorphins which are released with the hormone ACTH from the pituitary gland which in turn activates the adrenaline," he says, describing how pain and injury with nervous stress can bring the endorphins to the rescue.

It's also possible to stimulate the endorphins by the use of acupuncture, a significant discovery made by Pomeranz. Working with animals in his lab at zoology, he found that acupuncture would stimulate the nerves under the skin, the nerves in turn sent messages to the brain to release endorphin. Since then experiments in 12 other laboratories elsewhere in the world have confirmed these results, on people as well as animals.

Now endorphin, the brain's natural opiate, has been shown to have all the qualities of morphine, yet be non-addictive. In many cases endorphin, activated by medically



administered acupuncture, can be used to relieve pain. And to give a feeling of euphoria.

"Some 60 to 80 per cent of visits to the doctor are because of pain. The cost of pain in Canada is about three billion dollars a year, not counting the work lost. Large numbers of people are in such severe pain that they're suicidal. It's a noble thing to try to help them," says Pomeranz.

While acupuncture is gaining respectability in the medical profession thanks to the knowledge of how it works through endorphins, many people just don't like needles. So a new method has been invented to do the same job. It's called TENS, Transcutaneous Electrical Nerve Stimulation. It's a small electrical plate the size of a cigarette package, with batteries, which stimulates the nerves and thence the endorphins, in the same way acupuncture does. Available from informed doctors, from private pain clinics and those in major hospitals and, on prescription, from certain pharmacies, on a sale or a rental basis, TENS relieves pain due to anything from migraine to arthritis.

"I use one myself for headaches or backaches," says Pomeranz. "It can't hurt you, as many pills can. There's solid evidence that one patient in seven is in hospital because of the side effects of drugs. To say nothing of all the people walking around on tranquilizers."

And why use them when the brain has its own tranquilizer type receptors which means, according to Dr. G.M. Besser, endocrinologist at St. Bartholomew's Hospital in London, England, that the brain must make its own natural anti-anxiety agent, another peptide like endorphin. It's more plentiful in some people than others but the trick is to learn how to turn it on, perhaps through meditation or biofeedback.

The brain makes its own sleep peptide too, better than any sleeping pill. It's been collected from the urine of goats, purified, and injected into an animal's head, causing the animal to sleep. Maybe, suggests Pomeranz, there are natural ways to release the sleep peptide, with the use of acupuncture, TENS, exercise or other means.

So far, attempts to administer the peptide endorphin as a medicine have been unsuccessful because the endorphin pills, even though a natural product, are 20,000 times more potent than morphine and, unfortunately, addictive. However, the substance has been useful in animal experiments to find out how such brain chemicals work.

Dr. Van Loon, for example, has found that endorphin, injected into specific brain areas in rats, produces changes in their feeding and drinking habits. It also alters their sexual activity. He reasons that the endorphins can decrease or raise the level of hormone release from the pituitary gland. This doesn't mean that there's a magic sex pill, a 1980s aphrodisiac, around the corner, or a pill to regulate eating habits in obese people, or to treat problem drinkers. But control in all these areas is a possibility in the future as more knowledge is gained about the workings of endorphins.

There are also lessons to be learned in the field of drug addiction. At the Addiction Research Foundation of Ontario Dr. Harold Kalant, a U of T professor of

pharmacology, has found through animal experiments that the release of endorphins from the brain is suppressed in chronic users of morphine. In fact, the endorphins reinforce the drug-taking behaviour. Thus the endorphins which in their natural state can produce a certain high or euphoria themselves, when blocked cause the user of morphine to crave more. Dr. Kalant is experimenting now to find out if other abusive drugs such as alcohol also work via the endorphins.

If, as research indicates, all narcotic drugs, from opium to codeine, have such an adverse effect on the brain, how can we take advantage of the brain's own natural and harmless drugs? One method is jogging, although we don't yet know which of 50 different brain chemicals combine to produce the high that dedicated joggers claim to experience.

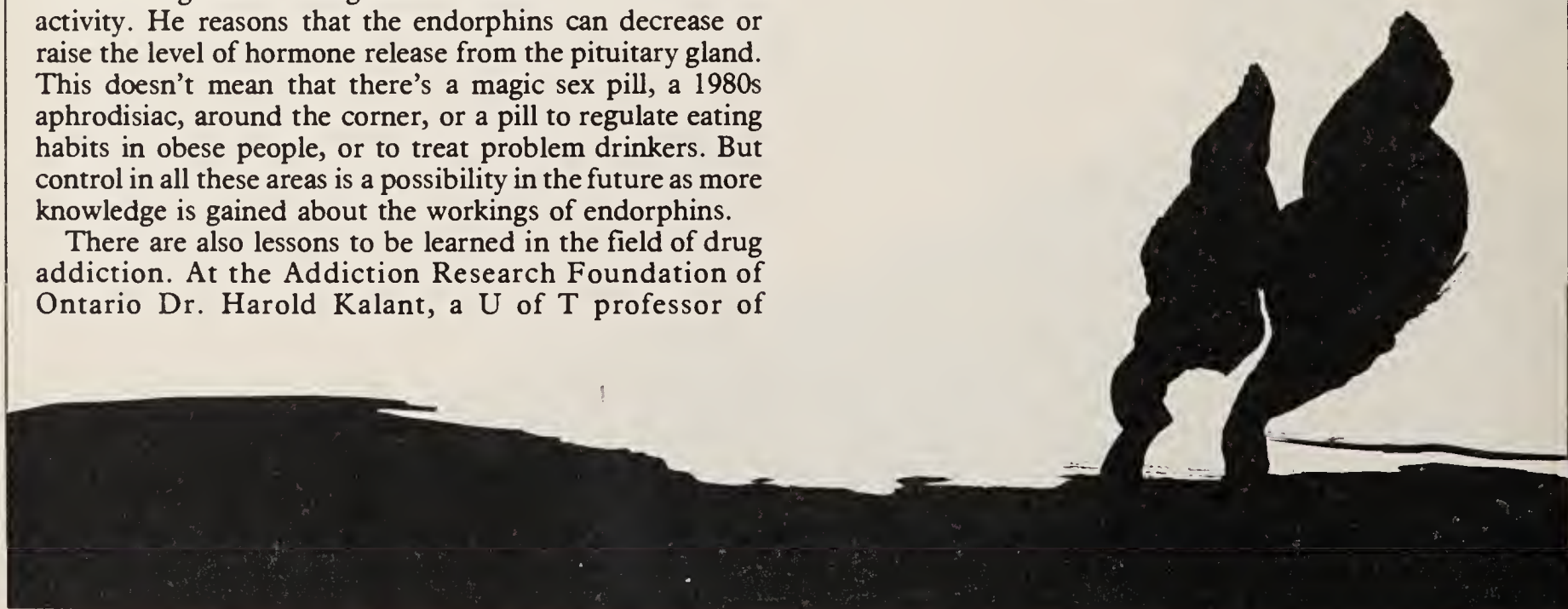
Marathoner Dr. George Sheehan of New Jersey, known as the running cardiologist and author of *Running and Being, the Total Experience*, advocates running, swimming, cycling, scuba diving, racquetball or weight-lifting as exercises to stir up both mind and body. Such exercise increases your mental as well as your physical powers and increases your work capacity some 30 per cent, he says. "The motion of the body puts your mind in motion . . . Muscles should be in celebration!"

The greatest high in sports comes from those with some risk, such as skiing, sailing, surfing, mountain climbing, hockey, football and soccer, says Dr. Sol Rosenthal of San Diego, whose book, *Risk Exercise*, states that 90 per cent of risk takers experience euphoria. "The joy and euphoria you feel in risk sport can't be equalled by anything else in modern life," he says.

In scientific language it means that endorphins and the hormone ACTH are released from the pituitary, the ACTH activates the adrenaline and noradrenaline, and the fight or flight response is on. Feels good, anyway.

No doubt the same sort of reaction explains the excitement felt from the challenge of an artistic performance, a scientific discovery, a business advance, or some social situations.

Meanwhile, until we have a happiness pill, or at least one that isn't harmful or addictive, and until we know more about how to make use of the brain's chemicals, we'll have to rely on old-fashioned means like love and challenge and sport to turn us on. We'll each have to find our own way of making the most of our private store of those peppy little chemicals called endorphins. ■





'WE'RE NOT HERE FOR RAP SESSIONS'

*Women's studies grows beyond
fem-lib and sisterhood*

By Sarah Murdoch

Professor Kathryn Morgan is teaching to a full house. Her tone is conversational, frequently punctuated with broad smiles. She has a friendly, open face, is sturdily built, and is wearing a below-the-calf blue peasant dress. Morgan looks for all the world like a teacher of rug-hooking or macramé. In fact, she is a philosopher who specializes in life's "messy" issues. On this day, she is providing an ethical analysis of sexual infidelity.

Eight women have gathered in a New College seminar room for a discussion of housework, using as a springboard two essays offering a Marxist perspective of domestic labour. One participant says an economic approach is all very well but there can't be social change until women stand together. "Women hate each other because they're all fighting for men," she reflects. "It's very hard for women to love other women when they don't even love themselves," another

observes. The talk moves back on topic but, because the class is small, the mood remains relaxed and informal. At one point, Professor Kay Armatage offers a personal tip on how to beat the domestic trap: she only does her laundry once every three weeks. The trick, she adds, is to buy lots of underwear.

A well-worn doctor's bag sits on the long table in Professor Edward Shorter's class. The student who is giving the day's talk has done her homework. There is little she doesn't know about modern day abortion techniques. As she speaks, sharp, shiny instruments from the bag are passed around the table—speculum, tenaculum, dilator, curette. She also passes around a book containing photographs of the products of first and second trimester abortion. Next, Shorter takes over with a historical look at how women aborted in times past.

Women's studies, and this whole baffling question of sex and gender, have evolved from the early days of "sisterhood" and liberation, through the thumb-sucking, self-contemplative early '70s to emerge, in recent years, as a legitimate area for academic scrutiny. From a once-a-week evening lecture series nine years ago, the U of T Women's Studies Program at New College has grown into a full-fledged interdisciplinary field of study with more than 30 courses offered in its calendar this year, most of them cross-listings from arts and science departments. Some, like the History of Protest, Psychoanalytic Approaches to the Study of Politics, Reproductive Biology, and Morality, Medicine and Law do not deal primarily with women. Others, on women writers, feminist theory, human sexuality, the anthropology of sex roles, hit dead on. The Introduction to Women's Studies core course, aimed at the theories of women's liberation, the history of women in 19th and 20th century Europe and North America and women's contribution to the arts, has 162 students this year, the largest enrolment of any New College course. A second core course, Scientific Perspectives on Sex and Gender, examining the biological, anthropological and psychological theories of sex and gender, has 35 students this year, twice what it had last year when it was introduced. The Faculty of Arts and Science gave approval to the introduction of a specialist degree in women's studies last year. And the instructors in the program hope one day there will be graduate school courses available.

The nine-year gestation has not been free of complication. Because it was conceived in social activism, its detractors say it still isn't sufficiently free of political taint. Then, too, some feel that a few of the courses are too subjective; and some departments have resisted setting up courses relating to women because they feel the scope is too narrow or believe that isolating material about women in a separate course effectively ghettoizes the subject matter.

The early program was the product of the '60s and did have a very large political component but in the last three or four years the program has become far more academic in its orientation, says Sylvia Van Kirk, a Canadian historian who will become chairman of the program committee this September. "That doesn't mean that it's lacking in political content but that's not the focus. It is important to give this message to students, that we're not here for rap sessions, to complain about how women have been oppressed or talk about personal problems. That might come out of the experience but what we're here for is really hard-hitting academic investigation of a very high quality."

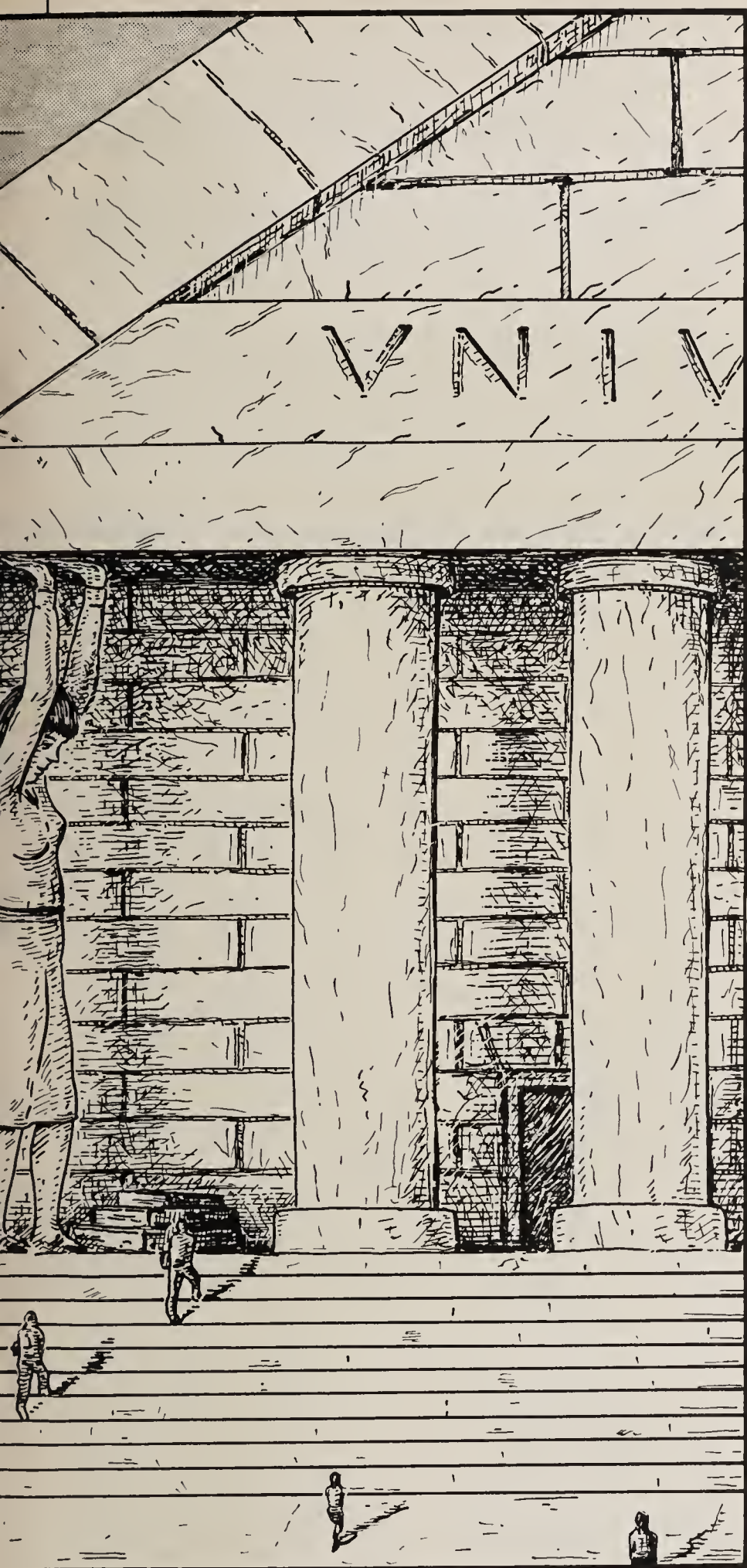
There is good evidence that science and the humanities have not always told the full story about women. A recent study pointed out that previous work on the effects of marijuana on humans used only male subjects. There is a 700-page history text on the shelves that has references to women on only a handful of pages. Compilations of John Stuart Mill's major works seldom mention *The Subjection of Women*. Research on motivation theory has, until recently, concentrated solely on men. "Women have been obliterated," says Van Kirk. "It is as though they never existed. And that simply is not a rounded perspective from which to pursue any discipline."

Chaviva Hosek, a past chairman of the program committee, says it's not enough just to fill in the blanks. Researchers must now question the significance of the new findings. "You don't just say 'we've left out a section, let's stick it on with crazy glue'. What do we think motivation is if our theories have worked for one group of people and are



totally inappropriate for another group? Maybe we have to redefine what motivation is and how we are going to study it."

She uses examples from her own field: "The study of literature has been about 'men of letters' and how they congregated in the coffee houses and the kinds of education they received. What about the women who never learned classical languages? Or the people who, because they were women, were never allowed to sit around in coffee houses?



"I'm just a little uneasy . . . often intellectual honesty is sacrificed to political expediency."

Maybe that just changed their contribution. A literature that comes from people who spent a lot of time talking to each other is different from the literature that comes out of

writing from 5 a.m. to 9 a.m. That's what George Sand did. Jane Austen wrote in the middle of her household chores. Harriet Beecher Stowe has a wonderful description of the baby being on the table, the butcher coming through the front door, the plumbing breaking down and the maid worrying about the fire, all while she is trying to write.

"We are now studying authors who haven't been studied before. Many times we find the books are interesting, *but*. That happens with male authors too. But we may also discover, for example, that Louisa May Alcott did not just write children's books but a series of thrillers and melodramas. And if we put them next to her children's books, very interesting things are revealed about the shape of her creative mind and the tensions that prevented her from putting those kinds of energy together. Filling in the gaps is not a neutral activity. As soon as you fill them in, the map looks different and you must rethink what you've been doing all along."

And this new map may well dismay some academics, she says. "In the development of any discipline, you have an old guard with assumptions about how intellectual work operates. They have great fears that something called 'interdisciplinary' couldn't possibly have any methodological rigour, any standards and criteria for its own verifiability, or a notion of excellence. These are reasonable worries because part of what you're developing is not just a whole new area of subject matter but new tools and techniques for thinking."

But the academic community is more likely to give voice to concerns about a perceived lack of objectivity in the program itself. At one time, Professor Ann Robson was moved to note in the calendar description of her history course on Victorian women that it was *not* a consciousness raising class. She was concerned in the early years of the program that the core course had a strong bias. "There was certainly a slant that I saw as a lack of objectivity. I don't feel any course should have a determined ideology. That's up to the students."

Professor Edward Shorter, whose courses *Women and Health in Past Times* and *The Social History of the Family* are both cross-listed in the women's studies calendar, criticizes what he describes as the "ideological homogeneity" that still exists in women's studies. "I'm sort of put off seeing an important area of knowledge acquire a hortatory function, that is, using it to cheer people on to greater victories. I'm not against greater victories for women but I'm just a little uneasy about having an intellectual discipline yoked to that particular harness because it happens very often that intellectual honesty is sacrificed to political expediency."

"Inconvenient facts about the lives of women today are frequently suppressed in the interests of being a cheerleader. When women get older and find themselves living alone, many unpleasant things happen and this whole range of unpleasantness is systematically suppressed in the interests of encouraging older women to blow themselves out of repressive marriages to establish their personal independence. In retrospect, one might ask whether this was a wise decision for these women to have made."

Shorter says that for women's studies to acquire the respect it deserves, the program will have to "come across as having the same academic professionalism one expects to find in accounting and organic chemistry. There's an enormous amount of objective information about the lives of women today. It's not as though this were a subject that has been plunked down in the last 10 years." An example of the lack of objectivity, he says, can be found in the

"We're talking about the whole question of social relations between the sexes . . ."

program's calendar which, in several cases, gives details of the professor's personal circumstances.

Van Kirk thinks such views miss the point. "We're talking about the whole question of social relations between the sexes and the way our society is structured. We are trying to show that areas of our personal lives and areas of our work should be much more integrated than they have in the past. It would be so much healthier for all of us if there were more balance.

"There's a tendency for academics to get very stuffy and think that we have to appear to be so serious and so professional that there's no room for any expression of warmth, humanity or humour. But that's not exclusive to the pursuit of intellectual excellence."

Professor Armatage, who has been involved with the program since its inception, says it has always been closely watched by curriculum committees because they were "very suspicious of a program that smacked of politics. They presumed we were preaching revolution without academic worth and we were subjected to yearly examinations but always did well. There are few people, except the most reactionary old dogs of the University, who question that now."

Armatage believes academics may feel threatened by the program. "Most of the studies that have been conducted are based on a set of assumptions the women's studies program is questioning. Educational institutions have been founded and perpetuated by men. Men have carried out their research and come to certain conclusions over the past 2,000 years and one of those conclusions is about women. We say their conclusions are wrong, their methods are wrong and they have not been objective.

"Even the notion of academic neutrality is a conservative idea which acts to reinforce their position. We're saying that everyone is biased. There is no such thing as neutrality or objectivity in my view. The issue is to be aware of your biases and goals."

There's little doubt that there is a slop-over between the subject matter and real life. One day in the past school year, a student asked Armatage whether she could address the class. She had picked up *Toi ke Oike*, the engineering newspaper, and had been outraged to find rape treated as a joke amid other comments degrading women. Several women from that class spearheaded an unsuccessful campaign to run the paper off campus. Later, Armatage, doing research for a film she was making about strippers, attended the engineering students' "slave auction", an event designed to raise money for charity. She subsequently wrote an article for one of the campus newspapers condemning the activity. When it looked like Kathryn Morgan would not get her contract renewed because of budgetary constraints, her students intervened with an 83-

signature petition to the administration. Earlier this year, the students got together to prepare a submission to the Ontario Confederation of University Faculty Associations that resulted in Morgan becoming one of ten professors in the province to receive an award for outstanding teaching ability.

Morgan's women's studies course has been developed pretty much from scratch—through government publications, scholarly journals, medical literature, law reform bills, the daily newspapers, even cartoons. Anything, in fact, that strikes her as relevant.

In the courses she teaches, she says she sees a clearer intersection between pure scholarship and personal relevance than is evident in most fields: "We might be discussing premenstrual hormone levels and psychological states in a cross-cultural context. It's detailed scientific data but it also says something immediate to the 20 or 30 women who are sitting there menstruating at that very minute. It's very important to know what is culturally derived and what is physiological and why the research in the past hasn't been accurate."

The current chairmen of the Women's Studies Program Committee is . . . a man. Ironically, Ronald de Sousa, a philosophy professor, was asked to take the job (following some hand-wringing within the program) because the few women interested in the area who had the requisite tenure status already had other University commitments. Ironical, too, that the presence of a man at the top may lend credibility to the program: "It shows that academically this is an area that does not just represent the interests of a few fringe kooks, all of whom are extremist women, fem-libbers and the like. And it shows it is possible for a man at least to declare himself as a feminist," says de Sousa.

He believes a women's studies specialist has an edge in the job market in government, private agencies and firms interested in developing sensitivity to women's issues. "The comparison should not be with something like computer science because most of our students don't regard that as their main option. The comparison should be with one of the humanities." De Sousa also sees it as a good vehicle for pulling together a number of disciplines. "For anyone interested in an integrated program, I think this would be one of the best things anyone could do and it's very regrettable that so few men have cottoned on to this so far."

Will women's studies, if it does its job, eventually self-destruct? Armatage thinks not. "I don't believe that day will come in my lifetime. I see the world in general as not improving at all in relation to women—ideologically, practically, economically or interpersonally. Men may be more sensitized or slightly more aware but I don't think they've changed their attitudes to any significant extent. And I think the University is an extremely conservative institution. To integrate completely an equal and representative view of women's contributions to the world, every discipline would have to be revised from the bottom up. The dilemma is whether you are going to have the polarization or whether you are going to have nothing. I don't believe integration is going to happen."

Arthur Kruger, dean of arts and science, has a different vision: "If the disciplines develop properly, a separate Women's Studies Program should not be required. We have to recognize there is a gap and the sensible way of filling it is to bring together in one place a group of dedicated people keenly interested in exploring this area. But I believe it would be wrong to find ourselves 50 years from now with women still being ghettoized in one program while men were everywhere else." ■

NEITHER SHY NOR RETIRING



Several thousand young men and women met the "dismal science" of economics during the 1940s and '50s in a little green book called *An Introduction to Political Economy*. There was nothing dismal about that volume. It was clean and clear, completely free of the graphs and mathematics that riddle today's massive first year texts. It was about people, not abstractions, and about the institutions people have developed to create wealth—that is, to diminish poverty.

The author was Vincent Bladen. He taught that first year course himself, although he was already a senior professor, because he thought it important. He was a superb lecturer—skilled in projecting ideas with humour and pragmatism, infectious in his enthusiasm for his subject.

Vincent Bladen still teaches. In a few weeks he will complete 60 years of lecturing at the University of Toronto. It is a record without precedent at this institution.

And that, mark you, is continuous teaching. He has never taken a leave of absence. He was supposed to, but every time something intervened. In 1939 it was war, in 1946 the chance to found an Institute of Industrial Relations (nucleus of today's Faculty of Management Studies). In 1953, instead of a sabbatical, he was appointed chairman of political economy. In 1958, his next chance at leave, he was made dean of arts. In that office he never stopped teaching undergraduates—even when he was also a one-man Royal Commission on the Automotive Industry. Since retirement in 1966 he has been a special, now honorary (which means unpaid) lecturer to a twice-weekly course at Scarborough College. He is 80 years old.

Sixty years is almost half the effective history of the University of Toronto. When Bladen joined in 1921, political economy had a dozen staff members (today it has more than 150). The redbrick building on Bloor Street which housed the department from 1930 to 1961 was still the home of McMaster University—not yet removed to Hamilton. The hall where Bladen would lecture to first year students was its chapel.

To join such an outpost of

intellectual empire (for economics in Canada then was still undeveloped and colonial) must have been an act of courage or of desperation. Bladen, aged 20, had just graduated from Oxford. His BA was his last earned degree: he was hired by Toronto when academic passion was more important than a PhD. James Mavor, head of his new department, wrote from England about the new appointee: "a conceited young man who knows little and crows about like a cockerell . . . we will try him out for a year. A man can't help being a cub but he can help remaining one."

Bladen never completely lost a reputation for immodesty. He cheerfully admits to arrogance—a quality moderated by a twinkle in debate and a pretty fair track record. But he is not dogmatic. The Royal Commission he headed in 1960-61 led to the Canada-U.S. Auto Pact. Soon after the commission's report was published he told me, "It won't hurt if Harry Johnson (one of the

most brilliant economists of the time) or others should disagree with my argument and proposal. But if they showed me up as having done a shallow job, it would hurt." Johnson, as I recall, did disagree with the report; but in 1976 he dedicated one of his last books to Vincent Wheeler Bladen "who made me an economic theorist".

A revealing passage in Bladen's memoirs relates to the drafting of that report. "My colleagues were clearly unhappy about some passage I had read. Miss Leitch spoke up: 'But that's a value judgement.' I pounded the table and asked what a Royal Commissioner was for if not to make value judgements."

Passion, but with an abiding concern for scholarship, and equally for values. An economist, Bladen wrote, must be motivated not just by intellectual excitement but by a desire to improve the human lot. These qualities, together with an engaging devotion to the classics of political economy and a generosity of spirit, explain the circle of influence, honours and affection which surrounds him.

To undergraduates for six decades Bladen has brought an ever-fresh curiosity and pleasure in his subject. No matter that a course in economic theory might not get past his hero Adam Smith before Christmas. That was the risk, for he has never worked from formal lectures. Each year he returns to the texts and makes new notes—checking over notes from the previous year or two and then throwing them out. He develops new lines of thought as he lectures and when students raise questions he answers them—fully enough, on more than one occasion, to produce whole new articles. Of the secret of good teaching he once remarked: "Perhaps what matters most is that we, the teachers, respect the students."

There is no reason to believe at this point he will stop. This is not a eulogy. But 60 years is a landmark—a chance to recall that Toronto has always been blessed with great teachers who could elevate classes with their intellectual energy. Most of us have memories of such men and women. Vincent Bladen is one of mine. ■



FUNDAMENTALS OF GROWTH

*Energetic proof that
more is simply not enough.*

By James D. King

One story of the invention of chess attributes it to a mathematician who worked for an ancient king. As a reward for his invention, the mathematician asked for wheat, the amount to be determined by placing one grain of wheat on the first square of the chess board, two on the second square, four on the third square, eight on the fourth square, and so on, putting on each square twice the number of grains that were put on the preceding square. The filling of the squares on the chessboard is shown in the table. Two important characteristics of the growth of the number of grains are evident from the table.

Square number	Grains on square		Total grains
1	1	$=2^0$	1
2	2	$=2^1$	3
3	$4=2 \times 2$	$=2^2$	7
4	$8=2 \times 2 \times 2$	$=2^3$	15
5	16	$=2^4$	31
...			
64		2^{63}	$2^{64} - 1$

- (1) A few doublings can quickly lead to very large numbers.
- (2) The *increase* at any doubling is approximately equal to the sum of all preceding growth.

Incidentally, 2^{64} grains of wheat is approximately 500 times the annual world harvest of wheat! This enormous quantity was obtained by taking one grain of wheat and doubling it a mere 63 times! Doubling is characteristic of *exponential growth* and a few doublings can lead quickly to very large numbers.

In our society we are accustomed to characterize rate of growth as a percentage per unit time, for example, a rate of inflation of 10 per cent per year or a rate of interest of 18 per cent per year. A simple expression relates the percentage growth rate P to the doubling time $T(2)$ when P is constant. It is $T(2) = \frac{70}{P}$

(Readers who are familiar with exponential functions should have no difficulty proving this relation but will find that the numerical factor is actually 69.3 — however, 70 is much better for quick calculations.) As an example, a growth rate of 10 per cent per year will double the size of the growing quantity in $T(2)=70/10=7$ years. In 14 years it will double twice (quadruple) in size. In fact, the increase will follow the pattern of the table for grains of wheat on the chessboard so that after, say, five doubling times (35 years) the growing quantity is $2^5=32$ times its original size. An inflation rate of 10 per cent per year would then result in price increases of a factor of 32 in 35 years!

Exponential growth in a finite environment

Bacteria grow by division so that one bacterium splits into two, which then divide to give four, which divide to give eight etc. Let us assume a one-minute division or doubling

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time for these bacteria. Suppose one bacterium is put into a bottle at 11.00 a.m. and the bottle is observed to be just full of bacteria at 12.00 noon.

- (1) When was the bottle half full? Answer: 11.59 a.m.!
- (2) When would bacteria in the bottle realize they were running out of space? Answer: likely not before 11.58 a.m.
- To understand this look at the table.

Last minutes in the bottle

11.55 a.m.	1/32 full	31/32 empty
11.56 a.m.	1/16 full	15/16 empty
11.57 a.m.	1/8 full	7/8 empty
11.58 a.m.	1/4 full	3/4 empty
11.59 a.m.	1/2 full	1/2 empty
12.00 noon	full	no space left!

If at 11.58 a.m. some far-sighted bacteria realized space was running out, they would have only two minutes to act. If, after feverish activity and cost, by exploring off-shore or in the Arctic, they locate three empty bottles (three times the previously known space resources) they might be excused for believing their space problems were solved. However, with a doubling time of one minute and a quadrupling of space resources (four bottles where there was originally one), we see that all bottles are full at 12.02 p.m.!

Population

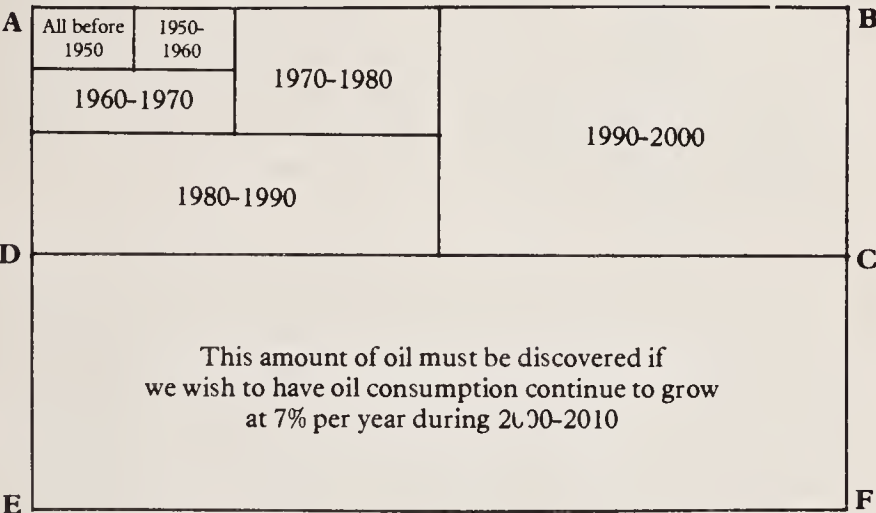
The world population in 1975 was estimated at four billion people and was growing at a rate of 1.9 per cent per year. Since then the growth rate may have fallen somewhat to 1.8 per cent. The doubling time for a growth rate of 1.9 per cent per year is 37 years. A straightforward calculation shows that in 550 years the population at this growth rate would reach 1.2×10^{14} which implies a population density of approximately one person per square metre on the land surface of the earth excluding Antarctica. A reduction in growth rate to one per cent per year only increases the time taken to reach this population density to 1,050 years. Obviously, something (perhaps catastrophic) will act to decrease population growth to zero (or to a negative value!) long before this population density is reached.

How Long Will Fossil Fuels Last?
Oil

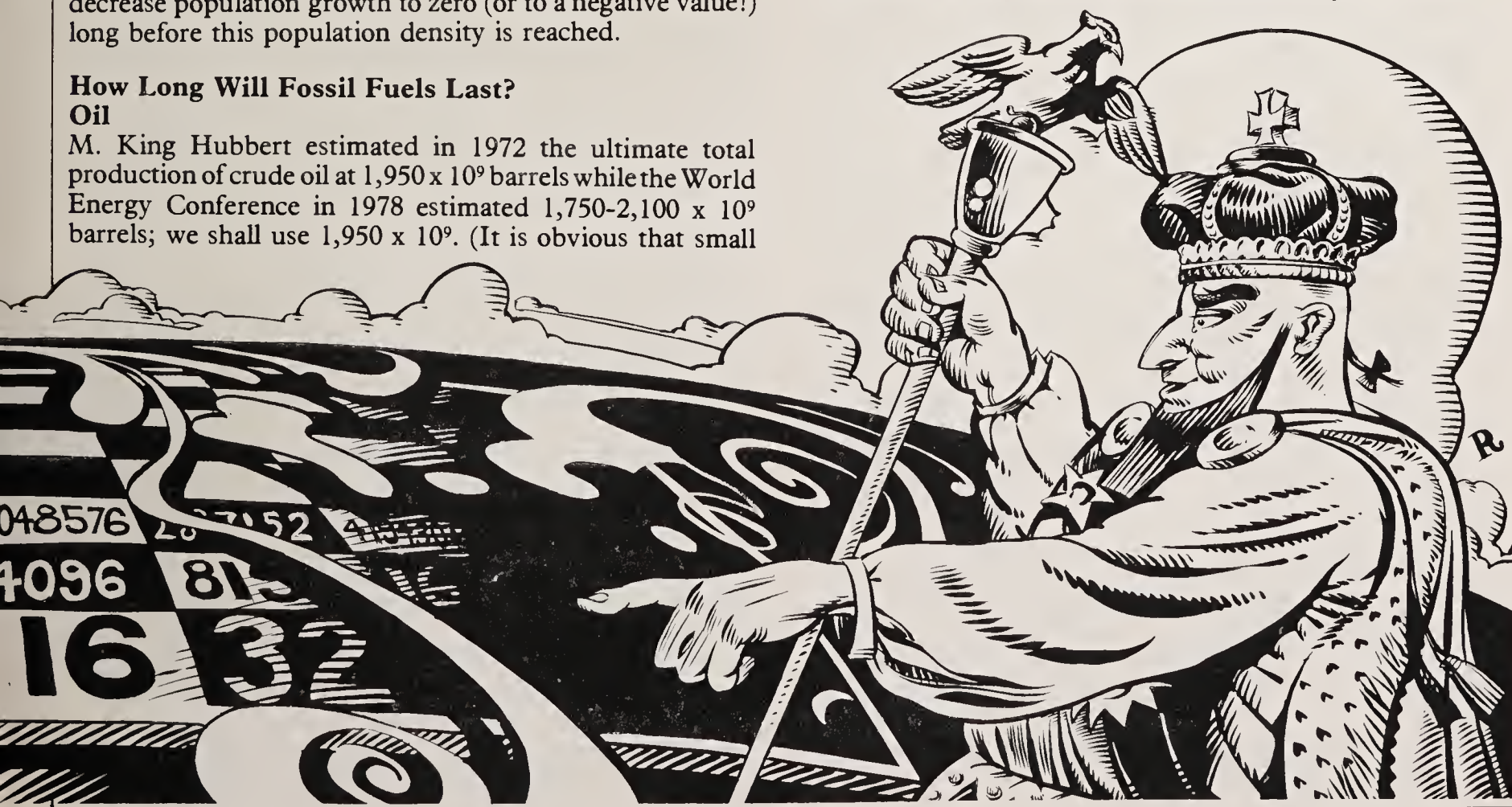
M. King Hubbert estimated in 1972 the ultimate total production of crude oil at $1,950 \times 10^9$ barrels while the World Energy Conference in 1978 estimated $1,750\text{--}2,100 \times 10^9$ barrels; we shall use $1,950 \times 10^9$. (It is obvious that small

changes in the total have little effect when growth is exponential.) The quantity produced to 1972 was 216×10^9 barrels or a little more than one-eighth of the ultimate total. Referring back to the bacteria example, we see that the "world petroleum time" is between two and three minutes before noon! That is, we are between two and three doubling times from the expiration of the resources.

Recently, oil consumption has been increasing at about seven per cent per year, giving a doubling time of 10 years or one decade. At this growth rate, the consumption in one decade is approximately equal to the sum of all previous consumption. This is dramatically illustrated in the following diagram. The rectangle ABCD represents the $1,950 \times 10^9$ barrels mentioned above. At a seven per cent consumption growth factor it will be used up about the year 2000. An equal amount, represented by rectangle CDEF must be discovered to sustain this seven per cent growth rate to the year 2010.



Unconventional petroleum reserves (heavy oils, oil shales, tar sands, enhanced recovery, deep offshore and polar) amount to almost the value of crude oil reserves. Even if the technology to exploit these difficult resources becomes available by the year 2000, oil consumption at the seven per cent growth rate would not be extended beyond 2010.



Coal

World coal reserves are estimated at six to eight times the world oil reserves (using the equivalent of 1,000 barrels of oil equals 210 metric tons of coal). The analysis of oil reserves in the last section showed that oil, both conventional and unconventional, will run out about the year 2010 at a growth rate of seven per cent and that an amount of oil equal to the present known reserves would need to be discovered to continue consumption of oil at this growth rate for another decade. What are the prospects for replacing oil by coal, if this were indeed possible? We note that the larger coal reserve estimate of $8=2^3$ times the oil reserve will provide three doubling times or 30 years' additional supply at a growth rate of seven per cent. We should then exhaust our coal supply about the year 2040.

Natural gas

Reserves of natural gas are approximately equal to reserves of conventional, or crude, oil as measured in energy equivalent units, or about one decade's supply at the seven per cent growth rate. There is great uncertainty, however, in the reserves of unconventional gas sources. There may, for example, be extremely large volumes of gas trapped at very high pressure deep under the earth's surface.

Reflections

It is obvious that energy consumption will not grow at a seven per cent annual rate as oil consumption has for many years now. There are several reasons for this: promotion of conservation; higher prices for both domestic and imported fuel; lack of adequate technology to exploit difficult resources; lack of capital funds for development of new technology; lack of rolling stock and rail facilities to transport coal; etc. The World Energy Conference 1978 estimated a world energy consumption of 580-680 units (exajoules, for those who are interested) in 2000 with 380-510 units coming from oil, coal and gas. Since 233 units from oil, coal and gas were used in 1972, this implies a growth rate of 1.8 to 2.8 per cent or a doubling time of 39 to 25 years.

What are some of the consequences of a slowdown in energy production and of the availability of oil in particular? Modern agriculture is based on petroleum-powered machinery and petroleum-based fertilizers. Agriculture should experience major changes, if not within our lifetimes, most certainly within the lifetimes of our children. With a doubling time of 37-39 years for population (1.9-1.8 per cent annual growth rate) by the year 2020 we shall have to produce twice as much food to hold constant the fraction of the world population that is starving. The World Energy Conference 1978 noted: "Conventional sources of oil should be adequate for premium uses such as transport and chemical feedstock beyond the end of the century, but this extended period for the premium use of oil implies a decline in the use of oil for heating beginning in the 1980s, and an increasing use of electricity for transport is expected after the year 2000."

A Final Word

This article has just scratched the surface of an important subject — the effect of growth in the use of our non-renewable energy resources. If it has stimulated the reader to enquire more deeply into the topic, it has served its purpose. I shall close with an observation from David Brower:

"The promotion of growth is simply a sophisticated way to steal from our children."

I'M ALWAYS CHASING CHOPIN

By Shirley Whittington

After I graduated from Vic, I lived for a time with a lady who was in love with Frederic Chopin. She was a professional pianist and teacher and her piano bore a bust of her beloved. Pictures of him, alone and palely loitering, littered the walls of her studio.

After she dismissed her final daily pupil, this lady would sigh heavily and slide onto her piano bench. There she'd close her eyes and yearningly launch herself into a stormy sea of études, fantasies and mazurkas by her ghostly innamorato. She played with passion and controlled rubato guided, I guess, by a nether Polish spirit.

She was, I now realize, possessed by *Zal*.

Zal? I'm told that Polish *Zal* is the underlying spirit in Frederic Chopin's music. A melancholy compound of pain, sadness, secrecy, rancour and revolt, *Zal* is almost a national Polish characteristic. Certainly all of Chopin's music is shot through with this sweet sadness. But shimmering and wistfully beautiful though it is, the music of Chopin is infrequently heard these days — a fact which inspires pain, sadness, rancour and so forth in many Chopin lovers.

A few weeks ago, a friend of mine visited his neighbourhood record bar, seeking recordings by the passionate Pole. "Chopin?" said the proprietor. "Jeeze. Nobody around here ever listens to that old guy any more."

Well, pale Frederic has been maligned before. When he was alive (but barely) his mistress George Sand (a.k.a. Mme Dudevant) called him "my dear corpse" and "that detestable invalid".

Mendelssohn took one look at his frail, effeminate frame and condescendingly dubbed him "Chopinetto".

That great Irish drinker and nocturne maker John Field called Chopin "a sickroom talent". In France, those bored with overly sentimental mush called Chopin "The Polish Tuberoise".

When I was a kid, Frederic Chopin seemed to be everyone's favourite composer. He was the Liberace of the classics and his popularity was further enhanced by a movie in which Cornel Wilde pretended to be him and moodily stroked the piano keys while José Iturbi actually made the music in a recording studio. (Merle Oberon played Mme Sand. She didn't actually write any novels on screen, but she smoked and strode about in her trousers convincingly.)



Soon after the release of *A Song to Remember*, almost anybody who knew a treble clef from a hockey stick could stumble through a polonaise or a waltz because simplified versions of the limpid classics were sold everywhere with “easy fingering for the home pianist”.

Easy pedalling too. Although much of Chopin’s music is unplayable by the amateur, he did confer one great boon on the amateur pianist. He was the first composer to use the sustaining pedal to unite scattered notes and there are zillions of ham-fisted keyboard noodlers who pay homage to St. Frederic of the Pedal every time they try to play anything.

Fallout from *A Song to Remember* filtered through the hit parade of the day. “I’m always chasing rainbows,” crooned Perry Como, “till the end of time.”

Although the music of Chopin is not heard so much today, the other good old boys of classical music are holding their own, with occasional boosts from the cinema. Dear Uncle Bach — at once the foundation and soaring spire of Great Music — he’s the posthumous star of a couple of Greatest Hits albums. I can’t recall Bach actually starring in any films but I do remember James Mason playing his great *Tocatta and Fugue* on an organ inside a submerged submarine. More recently Peter Sellers did the same thing with the same number in *Fu Manchu’s* castle in the Himalayas.

Rossini and Beethoven have both done rather well out of *A Clockwork Orange*, a film which nevertheless ruined the pleasures of *Singin’ in the Rain* for those who saw it.

I often wonder what Beethoven would say if he knew his grouchy old face was adorning millions of T-shirts. I bet that face would get grumpier still if its owner could hear the disco version of the *Fifth Symphony* or the *Ode to Joy* reduced to a sugar-coated breakfast cereal of a song. What a splendid hearing aid the royalties would have bought!

The Strausses have fared well from film, *The Great Waltz* aside. Remember the opening chords in *2001: A Space Odyssey*? They were originally spoken by Zarathustra

via Richard Strauss. And in all my movie memories, there is no scene so unforgettable and sublimely silly as that sequence from *2001: A Space Odyssey* where the huge space ship wheels triumphantly through the universe to the accompaniment of one of earth’s most beloved banalities—*The Blue Danube* waltz by Johann Strauss the younger.

Themes by Mozart flicker through lots of film scores but he doesn’t need the publicity. With or without assistance, that sunny Austrian will never go out of style. His is the musical happyface pinned on the lapel of so many concert programs.

But weedy moody Chopin is on the shelf I fear, and about the only place one hears his music regularly is on the Bugs Bunny cartoon show where the *Funeral March* regularly denotes direness. There’s hardly a kid over six who can’t whistle it.

What’s wrong? Is our hero too mushy and romantic for a society where lovers are coupled by computer? Is he too limp-wristed to play over the Muzak while shoppers mull over the best buy in disposable diapers?

Perhaps in this wide-open free-wheeling society we are secretly longing for predictability and order. Maybe that’s why one hears Bach and Vivaldi, Mozart and Haydn, so often.

But there is hope for the small underground core of Chopin lovers who have been forced by cruel program directors and record company executives to live in pain, sadness, secrecy and all the rest. Ashkenazy is recording all of Chopin’s works, and Kuerti has recorded all his études. And the CBC and Hart House have brought us the total piano repertoire in a series of Sunday concerts.

Maybe now that we are moving into what looks like a period of belt-tightening conservatism, we are ready for less structured music.

Th-th-that’s *Zal*, folks. ■

Shirley Whittington, Vic 5T3, is a freelance writer living in Midland.

THE ART OF BOGOMILA WELSH

Not to mention cunning, persuasion, exasperation and aggravation required to create a major exhibition.

By Pamela Cornell

The most maddening holdout was a wealthy New York widow who simply couldn't bear to part with her "little Gauguin" because she'd just had a small sitting room decorated to match.

"It was a portrait from the artist's time in Le Pouldu and an extremely important example of iconographic symbolism," explains Bogomila Welsh, guest curator of the exhibition *Vincent van Gogh and the Birth of Cloisonism*, opening Jan. 24 at the Art Gallery of Ontario.

"This painting was fantastic yet it had never been reproduced in colour or discussed in art history texts," says Welsh, a professor of fine art at Erindale College and an internationally recognized scholar of van Gogh and post-impressionism.

"The woman loved it when I spent a good 45 minutes explaining the significance of her 'little painting'. Suddenly she was seeing it in a new way; she was almost drooling with excitement.

"Until then, the work had obviously not ranked among her most valued paintings. After all, it had been relegated to a secondary room while a Degas and a Tintoretto were prominently displayed in the living room."

Welsh asked if the AGO could borrow the portrait for the van Gogh exhibition. The woman hesitated then said no, she'd just had the sofa upholstered in orange and the walls painted blue especially to go with the painting so it would hardly do to have a blank space there.

Determined to include the Gauguin in the exhibition, Welsh came back to Toronto and consulted with her colleagues at the AGO. Together they agreed to propose a temporary exchange—Picasso's *Woman with the Jewelled Collar* for the Gauguin.

"That Picasso is one of his great blue period paintings and it would have been perfect on the blue wall," says Welsh.

The offer was made. Several weeks passed. Finally, a letter arrived.

"I hope I don't disappoint you," it began, then went on to explain that when guests came to dinner, as they often did during "the season", they always put their coats in that sitting room and somehow it just wouldn't be the same without the "little Gauguin".

Welsh was incredulous.

"Gauguin didn't paint for the private collector but for the



PHOTOGRAPH BY ROBERT LANSDALE

future of art. If that woman had been afraid of damage, I would have understood.

"Of course, had she had the insight to put it, just once, into a show like this, the value would have zoomed. As it is, I haven't even mentioned it in my catalogue."

Described by the AGO as one of the most important art shows ever to be seen in Canada, this is not a retrospective, with the works of one artist hung in chronological order; rather it illustrates a complex scholarly thesis about influences on van Gogh's work and his influence on other artists, as well as on the development of modern art.

For Welsh, putting this show together has meant 10 years of research and three years of planning and pleading. But if the experience has been arduous, it's also been enviable because such a significant segment of post-impressionist art is unlikely ever to be re-united again. Today's skyrocketing art prices have made insurance premiums prohibitive.

Last spring, a van Gogh was auctioned for \$5.2 million (U.S.). Total value of the van Gogh and cloisonism exhibition is \$225 million, on which the gallery has paid an insurance premium of \$338,000.

Many of the 150 paintings in the show are familiar from popular reproductions and from art history texts. Among the works are 40 by van Gogh—including *La Berceuse*, *The Yellow House*, *The Sunflowers* and *The Bedroom at Arles*; 40 by Paul Gauguin—including *Self Portrait: Les Misérables*, *Agony in the Garden* and *The Loss of Virginity*; and 27 by Emile Bernard—including *Breton Women in a Field*.

The term cloisonism originally referred to such art forms as medieval enamels, stained glass windows and oriental vases. Towards the end of the 19th century, however, it came to be applied to the paintings of certain artists.

Cloisonism on canvas is characterized by flat forms enclosed in darker contouring outlines, by broad areas of pure colour and by simplified, generalized images. The style is immediately recognizable in the mature work of van Gogh, Gauguin and Bernard, as well as of Henri de Toulouse-Lautrec, Georges Seurat, Paul Signac, Jacob Meyer de Haan, Charles Laval and Paul Serusier—all of whom will be represented in the show.

"Colour is probably the most important aspect of post-impressionists' influence on the moderns," says Welsh.

In the 1830s, French chemist Michel Eugene Chevreul (1786-1889) had worked and written on a theory of colour contrasts. Chevreul talked about the striking optical sensations that could be produced by juxtaposing complementary colours—for example the primary colour red with the secondary colour green, the primary colour yellow with the secondary colour purple, or the primary colour blue with the secondary colour orange.

When viewed from a distance, they would be mixed by the eye. A luminous grey, for instance, could be produced by combining red and green dots in a particular way.

"Using that theory as a jumping-off point, van Gogh and Gauguin explored colour as an arbitrary and independent means of expression," says Welsh. "Gone were the so-called binaries—the traditional muddy Renaissance browns and ochres, mixed on the palette."

Whereas sombre themes and murky colours had characterized such early van Gogh paintings as *The Potato Eaters*, his later works combined joyful images with vibrant colours, as in *The Sunflowers*.

Van Gogh's transition to a more simplified art form took place during the two years he spent in Paris, where he moved in 1886 at the age of 33. There he lived in Montmartre with his married brother Theo who ran a

private gallery displaying works by young, unestablished artists—among them, Seurat, Signac and Gauguin.

Inspired by what he saw, van Gogh joined the school of Fernand Cormon and became friendly with fellow students Henri de Toulouse-Lautrec and Louis Anquetin, a little-known but pivotal artist—the first modern French painter to be called a cloisonist.

In 1887, Japanese prints were fashionable in Paris and van Gogh bought as many as he could afford. Design elements derived from these prints, along with an exploration of colour theory, are evident in Anquetin's 1887 paintings *Avenue de Clichy* and *La Moisson*. Exhibited publicly in 1888, these works earned him the reputation of founding the cloisonist style of painting.

"I think this exhibition will bring out how important Anquetin was," says Welsh. "Viewers will see immediately how his *Avenue de Clichy* influenced van Gogh's 1888 painting *The Café Terrace on the Place du Forum, Arles*."

Envisioning the impact of actually displaying these and other related paintings together is something Welsh has been doing for years. As with the widow, though, she sometimes had difficulty conveying her vision to others.

One of the hardest to convince was a private collector in France. He owns Anquetin's *The Harvest*, which had hung in that key exhibition in 1888.

For years, *The Harvest* had been listed as lost. Then Welsh traced it to France and began a relentless campaign to convince the collector to lend it. He consistently refused so, in desperation, she requested and was granted an interview.

He was gracious but firm as he showed her the coveted work. Seeing it at last was an intense moment for Welsh. So emotional did she become that, when being ushered out by the adamant owner, she broke down and wept.

The man was stunned. As he stared wordlessly at the distraught foreign visitor, his wife appeared. She immediately took her husband aside, chided him for his hard-heartedness and insisted he grant the art historian's wish.

Hearing the news, Welsh burst into tears again, a phenomenon she assures listeners is "not like me at all".

Unfortunately, another of her impassioned quests failed to produce such happy results.

"Van Gogh envisaged his painting *La Berceuse* (known in North America as *The Woman Rocking the Cradle*) as a kind of madonna — flanked on either side, not by the traditional saints, but by two vibrant still lifes of sunflowers.

"That triptych was never hung together, either in Vincent's lifetime or since. I had hoped we could fulfil his ambition in this show but it didn't work out.

"We have one sunflower and we explored all the other yellow-on-yellow possibilities (yellow-on-green would not have been in keeping with the artist's intentions). One of them can't be moved because of stipulations in a bequest. There are conservation problems with another. Yet another will be featured in an opening that coincides with ours. And the last prospect happened to belong to an anonymous private collector who never lends. It was all very mysterious. We had to deal with a whole network of intermediaries.

"So our triptych will be a maimed duck but at least in the catalogue it will be reproduced as it's meant to be."

Negotiations for each of the show's 150 paintings spanned an average of five months and filled a fat dossier with correspondence. Mounted in co-operation with the Rijksmuseum Vincent van Gogh in Amsterdam, the exhibition will receive its only North American showing at the AGO. The only other showing in the world will be in Amsterdam, after the March 22 closing in Toronto. ■

PROFESSOR OF EVERYTHING

*"You can learn any job by doing it,"
says John Senders, BA. Even his
friends get annoyed, sometimes.*

By Pamela Cornell



When John Senders was thrown out of Ohio's Antioch University in his freshman year, he went to work in a paint factory then went on to a career that would include designing control panels for U.S. moon shots, laying the groundwork for an international library data system and contributing to the scientific understanding of accidents — from car crashes to Three Mile Island.

Well, he *did* go back to university in the interim — this time to Harvard. But he came out with only a bachelor's degree (in psychology) and without distinguished marks because he'd juggled a full-time job with his full-time degree program, leaving little time for sleep, let alone for study.

Now, 32 years later, John Senders, BA, is a tenured professor of industrial engineering at the University of

Toronto. As he says: "Only in a university that's strong enough to do what it damn well wants is it possible for a person with a BA to be hired as a full professor."

If Senders' career seems to have taken quantum leaps, it's because that's how his mind works, pulling apparently disparate elements together into a coherent and illuminating whole.

"He's an original thinker," says Dr. Edward Llewellyn Thomas, an associate dean in the Faculty of Medicine. "He sees relationships that aren't obvious."

The two men met about 20 years ago when they were working in aerospace research. Both have had unusually varied professional lives — with the doctor starting out as an engineer, then switching to medicine along with writing science fiction novels. And both men enjoy a good argument.

"John's an intelligent adversary and a forceful speaker. He's also knowledgeable, vigorous and enthusiastic."

Senders' professional expertise is in a field that's relatively new in the context of scholarly investigation. In England, it's known as "ergonomics"; in North America, as "human factors".

With the industrial revolution of the late 19th century came an awareness that scientific study of "work" could help people do things faster, more efficiently and with greater safety.

The rapid development of sophisticated technology spurred by the Second World War brought an even greater need for professionals who could design equipment that provided for human limitations of the operator.

"John Senders has played a major role in laying a basis for our understanding of the man/machine interface in a complex technological system where the operator is under considerable mental workload," says psychology professor Neville Moray of the University of Stirling in Scotland. "He's provided a lot of data on how people direct their limited attention over time."

Moray was on the faculty at the University of Sheffield in England when he first met Senders at a human factors conference in Holland. They subsequently collaborated on a project at Brandeis University in 1968 and came together again at U of T where Senders was a visiting professor in 1973 and Moray taught psychology from 1970 to 1974.

At the end of his year as a visiting professor, Senders was invited to join the Department of Industrial Engineering. A meeting was duly held to determine whether or not he should be given tenure — that controversial academic version of job security.

The main obstacle was not that he only had a BA but that, at 55, he was old for tenure.

"Just how productive is he likely to be?" asked one sceptic.

"Your only concern should be that he might run you all ragged," retorted a colleague.

Senders now teaches a third year engineering course on the analysis of man/machine systems, a fourth year course on human performance in man/machine systems and four graduate courses, dealing variously with the performance of human operators in complex systems, the design of work places, systems safety engineering and systems design and development.

While his output is considerable, he's no workaholic. There's variety in what he does and he does it with an exuberance that makes it more like play than work.

When he's not teaching (an activity he loves as a performer loves an audience), he might be off giving a paper

and sampling gastronomic goodies in Europe, or flying down to Washington to serve as a U.S. government consultant, or testifying in court as an expert witness on human error.

But home is a little fishing village in Maine.

Senders and his second wife, Ann Crichton-Harris, happened upon Columbia Falls (pop. 350) one day five years ago when they took a "wrong turn" on their way to Boston. As soon as they saw the shingled New England house, built on a slight rise overlooking the bay, they wanted to make it their own — and that meant far more than just buying it. An attractive house to begin with, it's now a showplace, with its "old" addition, its antique furniture and its landscaped gardens.

Down the street is the former hardware store they bought and converted into an office, complete with computer terminal that keeps Senders in touch with colleagues around the world.

Last year he and several others, including Moray, experimented with a computer journal as a way of beating the cost of paper and publishing. The community of "subscribers", with terminals throughout the U.S. and Canada, could plug into a large central computer where the "papers" were stored. It didn't work.

"We ran into frustrations with the hard and software we were given," says Moray. "It's one of the few ventures that hasn't turned out for John. Normally, he has the golden touch."

To keep occupied during their summers in Columbia Falls, he and Ann have an antique shop, several rental properties, a 33-acre woodlot and a share in a woodstove company. For a year or so, they were also part-owners of a short-order restaurant.

Concerned that John might become lonely for his academic friends, Ann convinced him Columbia Falls would be a marvellous setting for a scientific conference with a clambake as the finale. Within eight months, and without funding from government or university, the idea had become a reality and 25 scientists, from as far away as England and the west coast, had gathered to give papers on human error. Senders hopes the conference will become an annual event.

Meanwhile he's absorbed in a scheme to build a hydro-electric generator with requisite "ladder" for fish going upstream to spawn.

The actual construction is unlikely to be as complicated as the process of acquiring a federal permit. Present regulations and procedures seem to assume that every project must be on the scale of the Hoover dam. Only recently has the U.S. government begun devising application forms for small hydro developments.

"Learning our way through the paper maze was quite a feat," says Senders. "There were 16 agencies involved. It was ridiculous! Doing things their way would have meant spending \$92,000 on lawyers fees alone and who knows how long the whole thing would have taken."

The solution was to apply Senders' Law which states that "when dealing with a sufficiently large organization, you can always get things done if you're prepared *NOT* to go by the book".

The complex problems that intimidate lesser souls provide the challenge Senders craves.

"My father used to say that a person growing up in a technological world should be able to go naked into the woods and come out with a working radio. That made a

great impression on me.

"You can learn any job by doing it. Unless, of course, you're afraid to make mistakes. Then you'll never do anything; you're frozen. You have to act, assess, then correct anything you're doing wrong."

Sometimes, says his wife, it seems as if he can do literally anything. He used to fly small planes until he let his pilot's licence lapse. He once made a found-object sculpture for the garden — a bird, with sheep shears for a bill, a scythe for a body and a sickle blade for wings.

He concocts stupendous birthday surprises and always finds the perfect piece of poetry for any occasion — dramatically recited in the resonant bass voice he often exercises by singing all his favourite Gilbert and Sullivan and Tom Lehrer songs.

A gregarious man, he loves to give dinner parties and is a superb cook.

"Even when we're not entertaining, John does 90 per cent of the cooking," says Ann. "He likes to do the shopping, too, so he can discuss the appropriate cut of meat with the butcher. I tend just to pick up a packet of something."

Senders grew up with four older sisters — all bright, articulate, and highly competitive. Games such as Scrabble, backgammon and chess were an integral part of family life and everyone was a demon for winning. Senders still has that compulsion and he's anything but modest about his triumphs.

"He's enormously arrogant, which can annoy people terribly," says Gregory Baum, the outspoken Roman Catholic theologian.

The two men met when Senders' first wife took a course from Baum. They've subsequently developed a wary friendship, based largely on their mutual fondness for good argument.

"John has a brilliant scientific mind — combining analytical genius with an extraordinary imagination but he infuriates me because he's insensitive to the role of meaning and values in the constitution of society.

"We're on totally different wave lengths. His interest in psychology is purely empirical. For example, he would examine a painting in terms of how the eye covers it. His emphasis tends towards the physiological whereas I'm interested in how a painting challenges me, leads me to new self-perception, opens me up to new understanding.

"We have our political differences, too. John wants the government to leave him alone as much as possible so he can live a fulfilling life. He accepts the existing system in which the smart ones do well. I'm a socialist; I dream of a system where people who aren't so smart can do well.

"Yet while his political views represent self-interest, in reality he's wonderfully warm-hearted, generous and affectionate."

Even Senders' closest friends and staunchest admirers admit that he alienates a lot of people with his strongly stated opinions and his contemptuous irritation at incompetence.

"Students either love him or hate him," says Tim Maryon, who worked as Senders' research assistant after graduating from the industrial engineering program. "I could listen to him for hours; his lectures incorporate such an extraordinarily broad range of knowledge.

"But those in the lower half of the class were not so enthralled. No one could breeze through without doing a significant amount of work; his tests are demanding, and when he's angry, he's formidable. It's a shame, though, that

some people never see past his abrasiveness."

Senders isn't nearly as abrasive as he used to be, says Neville Moray. "Since Ann came into his life, he's almost unrecognizable.

"He's always been a superb scientist, but with a lot of blind spots in other directions. He's a technologist's technologist; definitely limited on the arts and humanities side. But now, thanks to Ann, he's begun to loosen up and is more open to ideas he once held in contempt. She brings out his human side, a side that used to be buried under all the pragmatism."

A not-so-practical side of the man is his impatience with reinforcing his scholarly reputation by sitting down and writing up his findings for scholarly journals. Much of his work comes out in the form of contract reports, often not seen for some time by his academic colleagues.

"Few people have more than two or three original ideas in



a lifetime," says Tim Maryon. "John's ideas seem unlimited. But he hasn't the time or inclination to plod along doing the methodical stuff. That's why he doesn't mind in the least if someone else takes one of his ideas, expands it, takes out a patent and makes a profit. While someone else can do the donkey work, there's no substitute for his inspiration."

Senders wants to make enough money to afford the big house and good wine essential to his expansive brand of hospitality but he's not interested in amassing a fortune.

"When the power of the intellect gives people mastery over their environment, they don't need the power of wealth."

After leaving his first job, at the paint factory, Senders joined an electronics firm as a production manager and, to offset the monotony of those duties, he began to dabble in circuit design. By the time he left the company, he was chief electronics engineer.

During the same period, he married his first wife, who was then working on her PhD in psychology at Harvard. Curious about what she was doing, he enrolled as an undergraduate, after having placed third in the entrance exam. Within a few years, he was running a large research program on human perceptual motor skills.

The abrupt end to his first days at university had been the result of his refusal to take a required course in basic mathematics.

Said young Senders to the Antioch officials: "I've known the stuff since I was seven. I'm buggered if I'll waste time taking a course in it now."

His father duly received a letter informing him that the college rarely expelled a student before completion of the freshman year, however, in his son's case they were making an exception.

"Well, John," said his father, "people will always make exceptions for you."

GOVERNING COUNCIL

On July 1, 1972, by provincial statute, the governing structure of the University of Toronto changed from a bicameral system of Senate and Board of Governors to the unicameral Governing Council, with the council combining the powers and duties of both bodies.

Governing Council is made up of 50 members representing all estates of the University community: the Chancellor and President are *ex officio*; two presidential appointees; 16 government appointees; eight alumni; 12 teaching staff; two administrative staff; eight students.

In view of the size and complexity of the University and the extensive responsibilities of the council, a number of standing committees and subcommittees have been established to which much of the council's authority has been delegated. All major policy decisions require the approval of the Governing Council.

At present there are four standing

committees: Academic Affairs Committee; Business Affairs Committee; Committee on Campus and Community Affairs; Planning and Resources Committee. Each standing committee has one or more subcommittees. The resulting structure is displayed on the chart below.

Governing Council members sit on one or more of these committees and most committees have members who are not from the council.

Every year elections are held to fill vacancies in the alumni, staff and student constituencies. In staff and student elections all members of the constituency have a vote but because of the large size of the alumni constituencies, a different procedure is used.

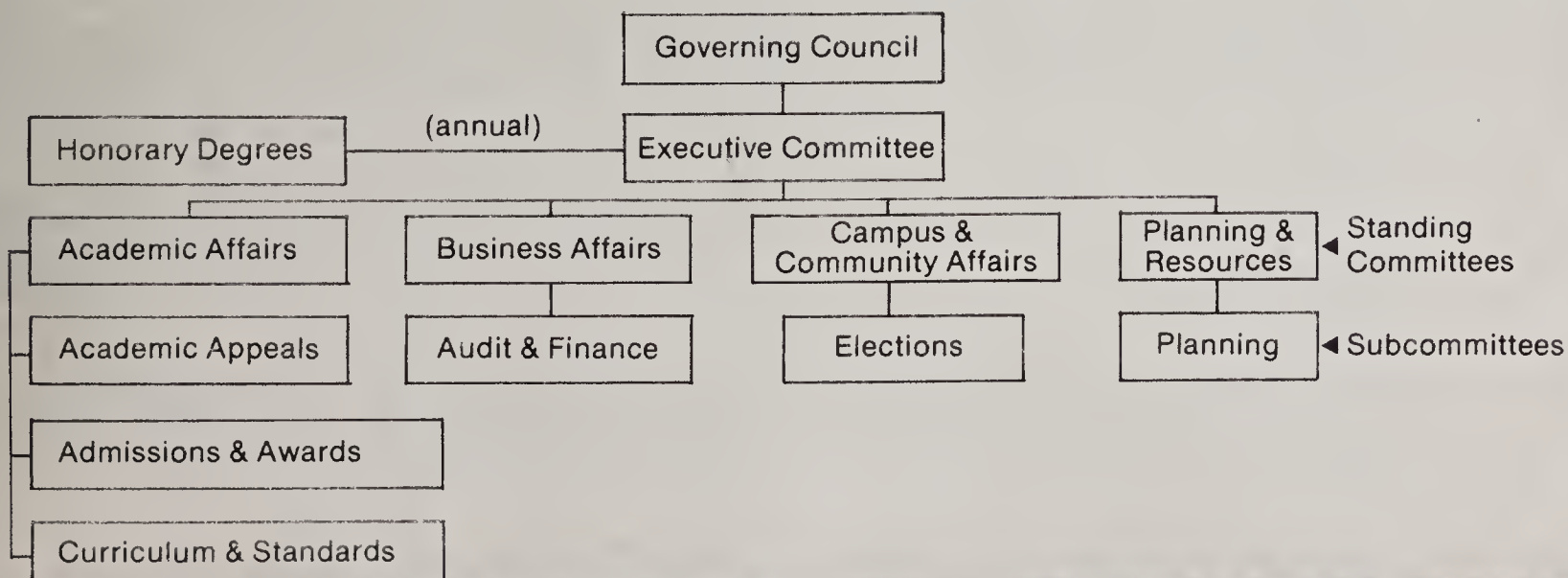
In 1972, Governing Council approved a recommendation from the directorate of the University of Toronto Alumni Association to establish a College of Electors. The college, made up of representatives from the constituent associations of

the UTAA, is responsible for the election of the chancellor and the alumni members of Governing Council.

A call for nominations for three alumni representatives on council has been issued by the chairman of the college (*The Graduate*, Nov./Dec. 1980, page 28). The representatives will serve for three years from July 1, 1981 to June 30, 1984.

To serve as an alumni representative, you must be an alumnus/a of the University of Toronto, a Canadian citizen and not a member of the staff or a student in the University.

If you would like more information about serving on the Governing Council or if you would like to nominate a candidate and want a nomination form, which must be submitted by noon, February 23, 1981, please get in touch with Ross Smith, Secretary, College of Electors, 106 Simcoe Hall, University of Toronto, Toronto M5S 1A1; telephone (416) 978-6576.



THE NOXIOUS EFFECTS OF ORIGINAL SIN

Congratulations and a tip o' the hat to Pamela Cornell for her interesting and carefully researched article on Gregory Baum. It should do much to lay to rest the image of Baum as a crypto-heretic and *enfant terrible* in the Catholic Church.

But I have one reservation. The article quotes Baum as saying that if certain sexual practices are just part of what it is to be human, the Church should cease to consider them sinful. Is it really that simple? That statement, if truly representing Baum's thought, fails to take into account a long standing Christian belief, viz. the noxious effects of original sin (however they are to be explained). To say that certain sexual practices such as pre-marital sex are not morally wrong because they are just part of what it is to be human seems to be taking an overly optimistic view of the present human condition. *Video meliora proboque, deteriora sequor* [I see the better course and I approve of it, but it is the worse course that I follow] wrote the poet Ovid. St. Paul said pretty much the same thing, less elegantly perhaps, but no less plainly. Were not the drives which impelled poet and apostle alike to follow the *deteriora* "just part of what it is to be human"?

John Hochban, S.J.
Registrar
Toronto School of Theology

Regarding the plight of Ontario universities (which I deplore, as well as the current funding formula) and the on-going discussion of the "illiteracy" among graduates, I believe these issues are somewhat inter-connected. No doubt, there is a credibility gap between the universities and the general public as well as the government which could be bridged, in part, by improved performance.

The relaxation of standards in both high schools and universities did not stem from austerity but, on the contrary, happened during the prosperous '60s. It was the period that gave rise to the system of unlimited high school options and an equally nonsensical approach to post-secondary education.

In my present employment, I am constantly exposed to poor language skills even on the part of graduate students. When I was a freshman at Sir George Williams College in the late '50s, we had to write two essays per week as a requirement in the universally compulsory English grammar and composition course. When I was a teaching assistant at U of T in the late '60s, my students complained to me that no one had taught them how to write university-level research papers!

While sufficient funding is important in maintaining minimum standards, non-material considera-

tions, such as the following, are just as vital: adequate commitment to teaching on the part of the faculty; relevance of the curriculum to Canada and the requirements of modern living; and, last but not least, the emphasis on basic language/research skills.

I am enclosing \$10, representing my voluntary subscription to *The Graduate* for 1981.

K. Jean Cottam
Nepean

In counterpoint to Joyce Forster's question "Where are all the Alumni?" I would like to pose the question "Which is the University?" with apologies to syntax.

The self-perception of the University of Toronto has of course changed gradually with time but there have been abrupt changes such as the much-publicized campus unrest of the 1960s and the apparent changes now to a more searching and pragmatic institution. If there is a deep thread of philosophy which unifies and distinguishes the University in a temporal sense then it should be found. Then perhaps "All the Alumni" could find the University.

Fred W. Symons
Kanata

In Sarah Henry's very readable and thought-provoking article "Campus Shock" (*The Graduate*, Nov./Dec. 1980) there is a small error that saddens and embarrasses me. I do not refer to the error made in my name, which is not Barry; rather it is Barney. I refer instead to the fact that those who know haiku will know that the second line of a haiku always has seven syllables. Thus, to me, it is important to note that the transcription of "Haiku #1" which appeared in that article and its illustrations was in error. The haiku cited actually read:

Regeneration
Knowing leaves leaving circles
Convocations still
That way, all is more sensibly
sensible. "Depending", of course.

J. Barnard Gilmore
Professor of Psychology

Whether a few voices in the wilderness can have any effect on the policies of a short-sighted, arrogant government is dubious. However, it never hurts to try. [See letter enclosed.]

D.D.I. Kaschte
Toronto

Hon. Wm. Davis
Prime Minister of Ontario
Queen's Park
Toronto, Ontario

Dear Sir:

The editorial in the current issue of *The Graduate* distresses me immensely as a University of Toronto alumna and as a citizen and taxpayer of this province.

It alleges that \$170 million are needed to bring our universities up to

the national average. Among other astounding findings, it documents the mind-boggling case of an introductory psychology course in which there are registered more than 1,500 students.

The editorial ends with a reference to comments which you made at a press conference on August 25, 1980, that "other methods must be found, aside from just handing over more money".

I wonder just what methods you have in mind and how much you feel government should spend to support our institutions of higher learning.

Your comments would be appreciated.

(Ms) D. Kaschte, BA, MEd.

I am writing to request permission to make photocopies of the article "Campus Shock" in the Nov./Dec. 1980 issue of *The Graduate* for distribution to the members of our grade 13 class.

The article impressed me both by its content and its style. The approach Sarah Henry has taken is practical and down-to-earth and provides information and a point of view which will be very helpful to our students as they prepare for the transition to university, whether they intend to go on to the University of Toronto or elsewhere.

David Matthews
Upper Canada College
Toronto

At press time seven or eight high school principals and board of education representatives had asked for permission to reprint Campus Shock. We are delighted to extend reprint permission to all such people.
Editor.

As a retired teacher of English in Toronto schools, the fine article "Campus Shock" touched an aching nerve. The inability of many students clearly and concisely to express themselves is all too true. And this has little to do with intelligence but has its roots in the lack of one subject sadly neglected in our schools: grammar.

My parents were immigrants and were unable to speak a good English but I was fortunate to have had some outstanding teachers who not only taught grammar but imbued me with a love for the language which has never left me.

I commend Sarah Henry on such a perceptive analysis of the problems

found not only at the U of T but throughout Academe in North America.

Murray Sandler
Toronto

I received the Sept./Oct. 1980 issue of *The Graduate* recently. In the article "Necessity's Child" by Sarah Henry, I was particularly interested in the implantable hearing aid. I lost 60 per cent of my hearing 40 years ago and I cannot wear aid amplifiers.

I would like very much to hear about the progress being made to produce and market this invention. I may be interested in buying one of these new hearing aids.

I think setting up the Innovations Foundation fills an evident marketing need for the inventors concerned, the University of Toronto, and Canada. I wish the University all success with the foundation.

David G. Smith
Kaleden, B.C.

The implantable hearing aid is still undergoing clinical evaluation in patients. The Innovations Foundation expects to have the device on the market within the year.
Editor.

Enthusiasm for government bureaucracies which are inefficient beyond a certain minimal level tends to be restricted to power hungry bureaucrats and politicians and "dumb" "civilians".

There is no doubt that some government bureaucrats make some contribution however indirectly to the creation of real wealth in a

society. One suspects, however, that even in a country such as Switzerland the government bureaucracy has a net negative impact on the creation of real wealth. (The case with respect to paper wealth likely is rather different but paper wealth tends to be looked down on in some circles these days.)

George Hendry
Toronto

"In Defence of Bureaucrats" by John Holmes in the Nov./Dec. issue was a masterpiece. It seems a pity that wisdom such as this should be confined to the small circle of the university, when it needs to be shouted from the roof-tops of the country, the world.

But then — would we listen?

Margaret Henry
Willowdale

Just a note from an old Toronto graduate to tell you how much I enjoyed Ian Montagnes' article, "The Blue and White", in the Sept./Oct. issue.

I was in Toronto for my 40th reunion in June 1979 and one of the many highlights, for me at least, was when, at the Hart House luncheon, the band struck up "The Blue and White". I could feel the goose pimples ready to pop. Everyone at our table burst forth in song and we all knew the words.

We have a loyal group here and whenever we meet we always render a chorus of "The Blue and White". So, after more than 40 years, the strains of that beautiful song still hold fond memories.

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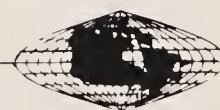
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I also enjoyed the article last year about Christmas at Hart House with Warden Bickersteth. It was really heart-warming.

Victor F. DeBonis
Troy, N. Y.

Some months ago I chided you in a rather ungracious fashion about the lack of a printed translation under your signature. You went beyond the call of duty in answering it in a restrained and pleasantly facetious manner — thereby proving that editors do have blood rather than vitriol in their veins.

But enough of the past. The purpose of this letter is to congratulate you on the consistently excellent quality of *The Graduate* and especially of the Sept./Oct. 1980 edition. Most interesting and informative from my point of view were the articles by Ohlendorf, Chant and Mallovy. They — and the other writers as well — covered such a wide range of topics that there was something to interest any reader.

Keep up the good work.

J.E.M. Young
Montreal

Post scripts

(1) You will be pleased to note that

this typed letter puts less strain on the reader's ingenuity than would a hand-written one. It is, of course, much less challenging.

(2) Please observe the typed name below my signature.

(3) I still think that the practice exemplified by number (2) above is a good one!

J.E.M. Y.

The article "Joints Were Meant to Move — And Move Again" in the Sept./Oct. issue of *The Graduate* calls for a note.

In the fall of 1918 a famous team of N.A. Indians, known as the Carlisle Indians if I remember rightly, played an exhibition game of rugby against the U of T team. Dr. James W. Barton was in charge of the gymnasium and athletic training at U of T and he remarked to the trainer of the Indian team that the loss of players through torn knee cartilages was very worrying. The trainer replied that they never lost a man that way. They put a knee brace on him and he continued playing for the team without difficulty. He gave one of the knee braces to Dr. Barton to try.

About the beginning of May 1919

I tore a cartilage in my right knee when playing lacrosse on the Varsity team. The knee was painful. I reported to Dr. Barton expecting that an operation for removal of the torn cartilage would be advised. He told me about the brace and said he would like to try it on me. It allowed the knee or rather the lower leg to move in one direction only, no side movement or twisting. I wore the brace for about four months. Pain was completely relieved, I played lacrosse again and didn't lose my place on the team.

Many years have passed and I have been active in many forms of games and athletics thanks to the Carlisle Indians' knee brace.

Lloyd Johnstone, MD
Bristol, England

After 30-odd years of resistance — I give in. The excellence of your publication, *The Graduate*, won me over. Enclosed is my cheque for \$10.

May I ask a favour from you? Please, please do not inundate me with other papers, letters, etc. as I have made a firm decision never to support any group that wastes paper.

Josephine Berthier
Niagara-on-the-Lake

Please enter my solution for The Graduate Test No. 7. It was really fiendish — I didn't think I would ever finish it. Thanks for an entertaining three weeks.

Bev Russell
Agincourt

Last June I had a robbery at my house and lost my University of Toronto ring, the kind with seven small sapphires on the crest.

I wore the ring a great deal and miss it.

I tried to get a replacement but was unable to do so.

Would any graduate having a ring of this type that they do not wear be willing to sell it to me?

Lois Darroch
Willowdale

Anyone able to help is invited to write to Lois Darroch c/o The Graduate. Editor

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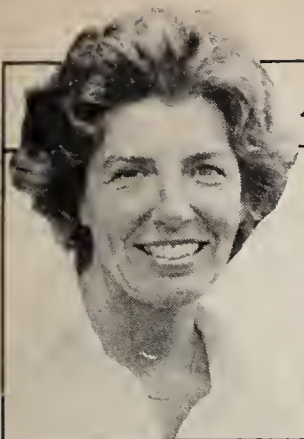
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Letters may be edited to fit available space and should be addressed: Graduate Letters, Department of Information Services, University of Toronto, Toronto, M5S 1A1.



Alumniana/By Joanne Strong

POMP & PAGEANTRY MARKS INSTALLATION

At his installation as Chancellor at fall Convocation, George Ignatieff recalled his own education at U of T some 50 years ago which "started me on the road to my intellectual adventure in Canada". But today, he reflected, the institution faces reduced circumstances. He spoke to a packed hall of graduates and their parents, there to see the laying on of the Chancellor's hands, the ceremony that marks the colourful end to the University experience. And colourful the academic procession was, a medieval pageant of crimson, black, gold, silver and royal blue, fur-trimmed hoods, stiff mortar boards and crushed velvet Cambridge berets. The audience included Lieutenant-Governor John Aird, former U of T president Dr. John and Mrs. Evans, the Hon. Walter L. and Mrs. Gordon, chancellor of Guelph University the Hon. Pauline and Mr. McGibbon, and former UC dean of women Charity Grant. UTAA president Douglas Kingsbury administered the oath of office to Dr. Ignatieff.

The highest accolade at the U of T is to be named "University Professor". In 1967, Northrop Frye became the first, and there are only 15 allowed in this academic elite at any time. The title is held until age 65 when it changes to University Professor Emeritus. A research grant of \$4,000 a year for five years accompanies each appointment. The criteria for selection are, quite simply, excellence in teaching and research. This year's recipients are researcher and administrator Dr. Aser Rothstein, director of the research institute at the Hospital for Sick Children; Prof. Michael Wickens, founder of the Department of Islamic Studies; and Prof. Allen Yen, an electrical engineer whose research group developed the very-long-baseline interferometer, a high resolution instrument of major importance in astronomy.

Energy minister Marc Lalonde made a strong statement on Canada's new energy policy to a capacity audience of resource industry executives, engineering faculty and students at the fifth annual McParland lecture.

The minister said quadrupling prices by the end of the decade, tying synthetic oil prices to an inflation index, paying \$30 a barrel for oil recovered by other than standard methods and an as yet unidentified special price for other types of new oil supplies will all stimulate exploration and development within the industry. Mr. Lalonde fielded sharp questions adroitly and, at one juncture, gave a smart rap to U.S. exploration companies for withdrawing exploration dollars from Canada after the announcement of the government's new energy policy.

In the '20s, education minister William Dunlop urged teachers to take their bachelor degrees in the evening. Years later, U of T faculty gave free lectures to groups both in and out of town. Today, the School of Continuing Studies offers more than 300 courses to some 15,000 people a year. The University has now established the "exceptional achievement in continuing education award". The first seven winners are: William Dunlop, posthumously, for starting it all; John McLeish, for his research interest in the creative potentials of older people; Father John Kelly, former president of the University of St. Michael's College; Professor Emeritus N.P. Badenhuizen, former chairman of the Department of Botany; J. Robbins Kidd of OISE; Clarence Parsons, who founded the French summer school at St. Pierre and Miquelon; and Prof. Herbert Richardson of the Department of Theology at St. Michael's College. They were honoured at a reception this fall, which also marked the retirement of Derek Mendes da Costa as chairman of the council of the school, and of Edward Gruetzner as director. Nominations for awards in 1981 will be welcomed by the secretary of the school.

The Canadian Perspectives lecture and discussion series has been sold out every season since its inception several years ago. This April, the series will expand into two sections on Mondays or Wednesdays. You can also return to campus for a single weekend for the second annual



PHOTOGRAPH BY DAVID LLOYD

A Healey Willan Tribute

by Godfrey Ridout

There are many of us here now who remember Willan. We remember him not just as some fleeting image that flits through memory, frozen as a photograph, but more like someone to whom we were talking just last week—we hear his voice even to the chuckle that had a bit of a squeak in it and, perhaps less often, his anger.

My knowledge of him as a church musician is superficial. The singers who worked with him during the near half-century at the Church of St. Mary Magdalene, the clergy, they are the ones who best knew that side of him. I know nothing of him as he was at home. But, as a practising musician and composer outside the church and home I did know him well.

I first came into contact with him in the early 1930s when he was vice-principal of the Toronto Conservatory of Music—"mostly vice and not much principle" he would quip. Later I became one of his few private pupils.

I was supposed to have an hour's lesson on Fridays at two o'clock but nearly every Friday I would still be there until about five or later when Healey would pull out his watch and panic. With expostulations of "my dear boy!" he would rush about the



studio, gather up odds and ends of music, stuff them into his old brown music case, struggle into his overcoat, grab his hat and stick and then go to grab a bite to eat before going to rehearse the choir at the church.

Those lessons!

Talking of his own singing voice, his *voce di compositore* as he called it, he said, "To say that he plays like a composer is praise indeed, but to say that he sings like a composer is pure insult!"

As a teacher of composition, as much as composition can be taught, he insisted upon technique, technique and technique! He demanded a

fluency that only comes from constant working; he was a stickler for bass-lines. (He wanted his epitaph to be, "He preached two-part counterpoint but nobody believed him".)

Because of the enormous fame of his church music, there is a danger that the image of Willan may be that of a saintly old man sitting Cesar Franck-like in his organ loft weaving his unworldly mysticism into sounds. While I readily admit that that was part of him, the other part was worldly, manly, passionate, no-nonsense and, sometimes, vulgar. ("Don't be ashamed of vulgarity, old man," he would say, "just avoid being dull.") He shone in convivial gatherings, he loved his limericks—the more off-colour the better. He enjoyed the company of women—the prettier the better and they, in turn, found him immensely attractive.

Ecce homo—behold the man!

Excerpted from Prof. Ridout's comments at a celebration at the Faculty of Music marking the centennial of Willan's birth. A scholarship was presented. John McCombe Reynold's bust was unveiled. And there was music: the choir of St. Mary Magdalene; Lois Marshall and the Elmer Iseler Singers performed Harry Somers' Limericks; Victor Feldbrill and the U of T Symphony performed Godfrey Ridout's revised orchestration of Willan's Through Darkness into Light.

Alumni College, May 29 to 31. The theme is Soundings in the '80s. Chancellor George Ignatieff will be chairman and lecturer on foreign affairs. Other confirmed speakers are law professor Derek Mendes da Costa, chairman of the Ontario Law Reform Commission; energy expert Professor O.J.C. Runnalls; and Professor Allan Borodin, chairman of the Department of Computer Science.

Sophie Boyd, 3T4, was a social worker, first with the Neighbourhood Workers and Samaritan Club, later as director of the West End Creche, a post she held until 1947. But it was as a probation officer that she most fully showed her compassion for others. Long after her retirement, she continued to help those whom she had come into contact with in her work. The Faculty of Social Work Alumni has now established the Sophie Boyd Award for postgraduate study. The award, which will replace the Sophie

Unclaimed Diplomas

If one of the many unclaimed November/December 1978 diplomas at Student Record Services, 167 College St., is yours, why not pick it up or have it sent to you by registered mail?

In the first case, you will need identification; if you send someone, a signed letter of authorization will be required.

In the second case, write to: Diplomas, Student Record Services, University of Toronto, Toronto M5S 1A1. Enclose a cheque or money order for \$4.50 and provide all of the following information, typed or printed: graduation name; address; date of convocation; degree; faculty or school, college if applicable; student number. If your name has changed since graduation, please provide some proof of your former name.

All unclaimed November/December 1978 diplomas will be destroyed on April 1, 1981. A replacement fee, currently \$25, will be assessed after that date.

Boyd memorial lecture, will be either \$1,000 for one person or \$500 to each of two recipients, and will be given to alumni who are pursuing postgraduate social work studies, preferably in the field of justice. Enquiries should be directed to the Sophie Boyd Award Committee, Social Work Alumni, Alumni House, 47 Willcocks St. Deadline for applications is March 31.

More than 360 dentists from across the country attended the Faculty of Dentistry alumni meeting and lunch this fall. Guest speaker was Dr. William K. Solberg, an outstanding clinician and researcher from the University of California at Los Angeles. The Montreal alumni are sponsoring a cross country ski at Ste Anne de Bellevue, with a party following at Macdonald College Faculty Club, on Feb. 28. Chancellor Ignatieff will be guest of honour at alumni events in the west in February and March during his trip from Calgary to Vancouver, Victoria, San Francisco and Los Angeles.

Where are they now?

The University tries to keep in touch with its alumni for a variety of reasons, for example, to ensure that they receive *The Graduate*. However, we have lost contact with many of them because we do not have their *current addresses*. If you know the whereabouts of anyone on the following list, could you please send the information to Alumni Records, 47 Willcocks St., University of Toronto, Toronto, M5S 1A1, or telephone 978-2139. Your assistance will be appreciated.

Faculty of Medicine (MD)

Edward V. Anten (37);
Doris E. Barber (formerly Kerr) (58);
Edward J.M. Blanchard (37);
Paul E. Bondo (39);
Murray M. Cash (40);
Allan A. Chaplan (54);
Elizabeth M. Chenault (60);
Man Ching Raphael Cheung (76);
Kian Thong Raphael Chow (76);
Bonar C. Coles (35);
Julius Constant (53);
Jascha W. Danoff (55);
Taiwo Daramola (61);
Lionel A. Dick (52);
Norma H. Dugan (formerly Siefried) (56);



R. Patricia Field (50);
Ernest W. Gentles (45);
John Randolph A. Gonzalez (53);
George Joseph Goodman (47);
Seabert Goodman (40);
Grant A. Gould (42);
William Grose (70);
Ned M. Grove (57);
Aaron Gussack (52);
Paul B. Hamilton (35);
Stalin Hardin (66);
Samuel D. Hart (35);

Douglas S. Hodson (61);
E. Mary Hollington (44);
Allan R. Hotti (58);
Norman N. Iscove (67);
James Hutcheson Jackson (64);
Anthony H. James (44);
Helen E.H. Johnston (46);
Walter F. Ker (42);
Murray Kitchener (46);
Robert Kloster (59);
Aaron Lax (41);
Stanley M. Le Ber (50).

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Saturday, June 6

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ETHICAL ISSUES: YES, NO & MAYBE

LECTURES

U of T/Toronto Society of Architects/O.A.A. Series.

Thursday, Feb. 5.

Towards an Architecture of the Public Realm. Susanna Torre, architect.

Thursday, Feb. 12.

Morden Yolles, engineer. Topic to be confirmed.

Thursday, Feb. 19.

Richard Sennett. To be confirmed.

Thursday, March 12.

The -Isms of Contemporary Architecture. Ken Frampton, architect.

Thursday, March 19.

A Straightforward Square House: Architectural ornament and the problem of style in Canadian architecture before Confederation.

Douglas Richardson, architectural historian.

Thursday, March 26.

Planning the New Capital of Australia. Andrew Metcalf, architect. To be confirmed.

All lectures in 3154 Medical Sciences Building. 8 p.m.

Information: Department of Architecture, 978-5038.

The Young Friedrich Engels and the British Working Class.

Monday, Feb. 9.

Prof. Adolf M. Birke, visiting professor of German and European studies. 179 University College. 4 p.m.

Information: Centre for International Studies, 978-3350.

Archaeological Institute of America, Toronto Society.

Wednesday, Feb. 18.

Recent Discoveries at Kommos in Crete. Prof. Joseph W. Shaw, Department of Fine Art.

Wednesday, March 18.

The Undersea Excavations of the Sanctuary of Apollo at Halieis. Prof. James A. Dugate, University of Illinois, Urbana.

Lecture room, McLaughlin Planetarium. 4.30 p.m.

Information, 978-5442.

The Origins of the Zapotec State in Prehistoric Oaxaca, Mexico.

Wednesday, Feb. 18.

Prof. Kent V. Flannery, Museum of Anthropology, University of

Michigan; SGS Alumni Association series 1980-81. Place to be confirmed.

8 p.m.
Information: Prof. Bruce Schroeder, Scarborough College; 284-3136.

Snider Visiting Professor.
Wednesday, Feb. 25 and Thursday, Feb. 26.

George Johnston, recently retired from Carleton University, will be at Scarborough College. Lecture on old Norse literature on Feb. 25, reading on Feb. 26. Details to be confirmed.

Information, 284-3243.

Society for Mesopotamian Studies.
Wednesday, Feb. 25.

Recent Excavations in Northern Mesopotamia: Tell Al-Rimah and Tell Brak. Prof. David Oates, University of London.
Wednesday, March 11.

The Ebla Tablets: An Interim Perspective. Prof. Robert D. Biggs, Oriental Institute, University of Chicago.
Place to be confirmed. 8 p.m.
Information, 978-4769.

Victoria Women's Association.

Wednesday, Feb. 25.

Student program.

Wednesday, March 25.

What would we be without writing? Reflections on people and texts. Prof. C.A. Silber, Department of English. Wymilwood, Victoria College. 2 p.m.
Information: Mrs. R.S. McCullough, 239-6772; Miss Kay Eaton, 489-8498.

Mind and Matter Series.

Tuesdays March 3, 10, 17 and 31, April 7.

Four series of five lectures: Nations in

the News; New Canadian Perspectives for the '80s; The Expression of Canada—The Cultural Scene Today; Yes, No and Maybe—Contemporary Ethical Issues. (Ethical issues will be discussion group, enrolment limited.) All sessions will be held at Victoria College. 8 p.m.

Fees: Series, \$25 per person, \$45 per couple; single \$6, student \$3.

Information, 978-3813.

Alexander Lectures.

Prof. Walter J. Ong, S.J., St. Louis University: Hopkins, Self, and God.
Tuesday, March 24.

Particularity and the Self in Victorian Consciousness.

Wednesday, March 25.

Particularity and the Self in Ascetical Tradition.

Thursday, March 26.

Faith beyond Scandal.

West Hall, University College.

4.30 p.m.

Information, 978-3160.

CONTINUING STUDIES

Applied Psychology: The Application of Psychology in Clinical and Industrial Settings.

Tuesdays, Feb. 3 to April 21.

Sheldon Geller, clinical and industrial psychologist.

Religion and Science.

Thursdays, Feb. 12 to April 30.

Impact of modern science on western culture and religious beliefs.

Chinese Philosophy: Confucius to Mao.

Tuesdays, Feb. 17 to April 21.

Survey of Chinese philosophy from earliest myths through Confucian era to 20th century and advent of "Thoughts of Chairman Mao".

"The Play's the Thing": An Introduction to the Festival Season.

Wednesdays, Feb. 25 to May 13.

Plays selected from the 1981 Shaw and Stratford festivals, introduction to dramatic elements and playwriting techniques.

Information on these and other courses: School of Continuing Studies, 158 St. George St., Toronto, M5S 2V8; 978-2400.

CONCERTS

EDWARD JOHNSON BUILDING

Great Singers Series.

Sunday, Feb. 1.

Lois Marshall, mezzo-soprano, with Greta Kraus, piano.

Sunday, March 15.

Elisabeth Soderstrom, soprano, with Martin Isepp, piano. Second and third of three concerts presented in co-operation with CBC Radio. MacMillan Theatre. 8 p.m.

Tickets \$6, students and senior citizens \$3.

Thursday Afternoon Series.

Feb. 5 and 12, March 5, 12 and 19.

Chamber music recitals by student performers.

Walter Hall. 2.10 p.m.

Haydn/Shostakovich Series.

Sunday, Feb. 8.

CBC Toronto String Quartet.

Sunday, Feb. 22.

Rosemarie Landry, soprano; Janet Stubbs, alto; Glyn Evans, tenor; John Dodington, bass; Claude Savard, piano.

Sunday, March 22.

Borodin Piano Trio, Roxolana Roslak, soprano.

Last three in series of five concerts in co-operation with CBC Radio.

Walter Hall. 8 p.m.

Tickets \$6, students and senior citizens \$3.

Mini Lecture Series.

Friday, Feb. 13.

Joji Yuasa, composer-in-residence, U of T, on his music and the music of other Japanese composers.

Thursday, March 5.

John Cage on "James Joyce, Marcel Duchamp and Erik Satie: Alphabet".

Walter Hall. 8 p.m.

Admission \$1, free to New Music subscribers.

Faculty Artists Series.

Saturday, Feb. 28.

William Aide, piano; Jeanne

Baxtresser, flute; Douglas Bodle, harpsichord; David Carroll, bassoon; Victor Danchenko, violin; Daniel Domb, cello; Rivka Golani-Erdesz, viola; Rosemarie Landry, soprano; Judy Loman, harp. Program of works by Telemann, W.F.E. Bach, Fauré, Ravel and Kodály. Last of four programs. Walter Hall. 8 p.m.

Tickets \$5, students and senior citizens \$2.

Electronic Music Series.

Tuesday, Feb. 3.

Concert II, works for performers and tape, will be presented as part of New Approaches to Music series at Hart House. 8 p.m.

Sunday, March 8.

Concert III, works by Pierre Schaeffer, Douglas Lilburn and Toru Takemitsu. Walter Hall. 3 p.m.

Faculty of Music Jazz Ensemble.

Saturday, March 21.

Under the direction of Phil Nimmons and David Elliott. MacMillan Theatre. 8 p.m.

Tickets \$3, students and senior citizens \$1.50.

U of T Concert Band.

Sunday, March 22.

Conductor Ronald Chandler, program includes Concerto for Tuba by Vaughan Williams with Ron Parker, soloist. MacMillan Theatre. 3 p.m.

U of T Concert Choir.

Wednesday, March 25.

Conductor John Tuttle, works by Vaughan Williams, Delius, Warlock, Tippett and John Rutter. Walter Hall. 8 p.m.

U of T Wind Symphony.

Sunday, March 29.

Conductor Melvin Berman, program includes premiere of Tomas Dusatko's Achordos and works by J.C. Bach and Dello Joio. MacMillan Theatre. 3 p.m.

Information on all concerts in Edward Johnson Building, 978-3744.

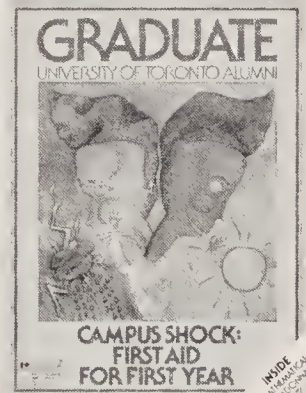


Thomas De Quincey: The Prose of Vision

V.A. DE LUCA

This first full-length modern study of Thomas De Quincey's imaginative writings stresses their relationship to the Romantic traditions of vision and inward quest and traces continuing themes and their transformation throughout De Quincey's career. The author offers sustained critical readings of De Quincey's major works *Suspensum de Profundis*, *The English Mail-Coach*, and the original and revised versions of *Confessions of an English Opium Eater*. \$15.00

University of Toronto Press



THANK YOU!

to the many readers who responded to our invitation to become voluntary subscribers to *The Graduate*. To those who intended and forgot, the invitation is still open. Send \$10 to The Graduate, Department of Information Services, University of Toronto, Toronto M5S 1A1 and mark it voluntary subscription.

Preparation for Retirement Living

Senior Alumni popular series of seven lectures on Tuesday evenings from March 31 to May 12 offering some ideas for increasing the enjoyment of retirement. Lectures will be at 162 St. George St. from 7.45 to 9.30 p.m.

Helpful information on adjusting to the changes that retirement brings will be presented: the challenge of aging; making the most of your

money; health; seniors and the law; housing alternatives; community resources; making use of leisure time.

Fee for the series is \$20 per person or \$35 per couple. Cheques should be made payable to UTAA—Senior Alumni.

For further information or to register: Department of Alumni Affairs, 47 Willcocks St., University of Toronto, Toronto M5S 1A1; (416) 978-8991.

ROYAL CONSERVATORY OF MUSIC

Wednesday Noon Hour Series.

Feb. 4.

Carolyn Jones, piano; works by Haydn and Prokofieff.

Feb. 25.

Deborah Piotrowski, piano; works by Beethoven and Schumann.

March 18.

Robert Linzon, piano; works by Mozart and Chopin.

Concert Hall. 12.15 to 1 p.m.



Immersion in France

The University of Tours in the fabulous Chateaux Country offers one month language courses for beginners to advanced students of French. Afternoons are free to enjoy faculty-conducted excursions in the beautiful Loire Valley, Brittany, Normandy, etc.

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Departures on June 30, August 2 and August 31.

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Toronto, Montreal, Maritimes **\$1,498.00**

Western Canada Cities **\$1,688.00**

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One month German language courses at the University of Cologne in Germany. Details available upon request

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Thursday Twilight Series.

Feb. 5.

Paul Grice, clarinet; Gerald Robinson, bassoon; piano to be announced; works by Poulenc, Bozza, Reger and Beethoven.

Feb. 19.

James Anagnoson and Leslie Kinton, pianos; Sonata Op. 34/bis by Brahms.

March 5.

Lawrence Cherney, oboe; Douglas Perry, viola; piano to be announced; works by Ravel, Etler and Loeffler.

March 19.

Pierre Souvairan, piano; program to be announced.

Concert Hall. 5.15 p.m.

Orchestral Training Program.

Friday, Feb. 13.

Victor Yampolsky will conduct works by Mozart, Prévost and Prokofieff.

Friday, Feb. 20.

Steven Staryk will be leader and soloist with OTP strings; works by Rossini, Vivaldi, Bach and Mozart.

Tuesday, March 3.

Mordechai Rechtman, bassoonist, will conduct OTP winds; works include Stravinsky and Mozart.

Friday, March 6.

Alexander Schneider will conduct works by Bizet and Mozart.

Friday, March 13.

Franz-Paul Decker will conduct works by Weber, Hartmann, Brahms and Schubert.

Concert Hall. 8.15 p.m.

Admission, pay-what-you-can.

Complete Mozart Sonatas.

Sunday, Feb. 15.

Antonin Kubalek master classes and concerts; last in series of four.

Concert Hall. Master class, 2.30 to 5.30 p.m. Concert, 8 p.m.

Fees: auditor, class and concert \$10; concert \$6.

Special Event: Luncheon and Concert.

Friday, Feb. 27.

Andrew Davis will conduct the Orchestral Training Program orchestra. Ballroom, Royal York Hotel. 12.15 p.m.

Tickets: \$15 per person, \$25 per

couple. All proceeds to Conservatory student aid program. Reservations 978-6257.

Information on all Conservatory concerts, 978-3771.

HART HOUSE.

New Approaches to Music.

Tuesday, Feb. 3.

Works for performers and tape, presented in co-operation with Faculty of Music Electronic Music series; works by Norma Beecroft, Mario Davidovsky, Gustav Ciamaga, R. Murray Schafer. Music Room. 8 p.m.

Chamber Music.

Tuesday, March 3.

York Winds.

Tuesday, March 10.

James McDonald, horn.

Tuesday, March 17.

Joan Maxwell, soprano.

Music Room. 8 p.m.

Sunday Afternoon Concerts.

Feb. 8.

Uri Mazurkevich and Dana Pomerantz-Mazurkevich, violins.

March 15.

Toronto Brass Quintet.

Great Hall. 3 p.m.

University Singers.

Wednesday, March 11.

Conductor William Wright; program includes Bach's Cantata "Herz und Mund und Tat und Leben". Great Hall. 8.30 p.m.

Information on Hart House concerts, 978-2436 or 978-5362.

Music of the World's Peoples.

Lectures and performances.

Tuesday, Feb. 10.

Finno-Ugric Musical Traditions.

Roman Toi and choral group.

Tuesday, March 10.

South Indian Instrumental Music.

Muthulaksmi Ranganathan, *vina* (lute family).

Tuesday, March 31.

Arabic Classical Music.

George Sawa, *kanun* (zither family).

Croft Chapter House, University College. 8 p.m.

Information, Community Relations; 978-6564.

Fitness program for senior alumni

"Use it or lose it" is the motto of Health, Exercise and Fun in Your Lifestyle — HEFL — a program of eight two-hour sessions of light exercise and lectures. Instructor for the program will be Bill Rich. A senior himself with experience leading fun and fitness programs for seniors, he is the oldest graduate of the Fitness Ontario leadership program.

Sessions will be on Wednesday mornings from March 25 to May 13 at the Athletic Complex. Cost is \$45 per person.

For more information or to register: Department of Alumni Affairs, 47 Willcocks St., University of Toronto, Toronto M5S 1A1; telephone 978-8991.

PLAYS, READINGS & OPERA

Glen Morris Studio Theatre.

Feb. 4 to 7 and 11 to 14.

"Prometheus Bound" modern staging of Aeschylus' choric tragedy. Third of four plays, Drama Centre 1981 studio season. 8 p.m.

Tickets \$1.

Information, 978-8668.

Scarborough College.

March 4 to 7.

Adaptation of "The Investigation" by Peter Weiss, documentary drama about Auschwitz.

TV Studio 1 at 8 p.m.

March 12 to 14.

"Le Malade imaginaire" by Molière.

TV Studio 1 at 8 p.m.

Information, 284-3243.

Hart House Theatre.

March 4 to 7 and 11 to 14.

"Love for Love" Congreve's Restoration comedy. Last of four productions, Graduate Centre for the Study of Drama 1981 season. 8 p.m.

Tickets \$5, students and senior citizens \$2.50.

Information, 978-8668.

MacMillan Theatre.

March 6, 7, 13 and 14.

"Patience" by Gilbert and Sullivan, Gilbert's views on the aesthetic movement to Sullivan's melodic score. Second production by Opera Division, 1981 season. Performances at 8 p.m. Box office opens Feb. 9. Tickets \$5, students and senior citizens \$2.50.

Information, 978-3744.

George Ignatieff Theatre.

March 18 to 21 and 25 to 28.

"The Tempest" by Shakespeare, co-production by Graduate Centre for Study of Drama with Trinity College Dramatic Society. 8 p.m. Tickets \$1.

Information, 978-8668.

Poculi Ludique Societas.

February.

"The Faithful Shepherdess" by John Fletcher.

March.

"Tom Tiler and His Wife", Tudor musical.

Information, 978-5096.

EXHIBITIONS

Scarborough College.

Jan. 26 to Feb. 13.

Medieval artifacts from the ROM.

Feb. 23 to March 6.

Pauline Choi, paintings.

March 9 to 20.

Laura Biscotto, sculpture.

March 23 to April 10.

Annual juried student show.

Gallery hours: Monday-Thursday,

9 a.m. to 7 p.m.; Friday, 9 a.m. to 5 p.m.; Sunday, 2 to 5 p.m.

Erindale College.

Feb. 2 to 26.

Bert Hoferichter, photographs.

March 16 to April 11.

Spring Forward. Annual exhibition of work by students in U of T/

Sheridan College co-operative program in art and art history.

Gallery hours: Monday-Friday, 10 a.m. to 9 p.m.; Saturday-Sunday, 2 to 5 p.m.

Hart House.

Feb. 3 to 20.

Sydney Drum, paintings and floor pieces.

Feb. 23 to March 6.

Hart House Camera Club, 59th annual exhibition.

March 10 to 27.

Drawings and paintings of the figure by three artists: Kenneth Lywood, Peter Matyas and Paul Wysmyk.

Gallery hours: Monday, 11 a.m. to 9 p.m.; Tuesday-Saturday, 11 a.m. to 5 p.m.; Sunday, 2 to 5 p.m.

Architecture.

February.

M.S. Yolles and Partners, engineers.

March.

Thomas Lamb, industrial designer.

Information, 978-5038.

SPORTS

Hockey.

Wednesday, Feb. 4.

Blues vs Guelph. 7 p.m.

Friday, Feb. 6.

Blues vs Western. 7 p.m.

Thursday, Feb. 12.

Blues vs Brock. 7 p.m.

All games in Varsity Arena.

Information and ticket prices, 978-4112.

Basketball.

Saturday, Feb. 7.

Blues vs Laurentian. 2.15 p.m.

Saturday, Feb. 14.

Blues vs Carleton. 2.15 p.m.

All games in sports gym. Admission \$2, students \$1.

Information, 978-4112.



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THE GRADUATE TEST NO. 9

The winner of The Graduate Test No. 7, which appeared in the Sept./Oct. issue, was William A. McFarland of Stratford-upon-Avon, England. A copy of *The Indians of Canada* has been mailed to him. His name was drawn from a total of 242 entries postmarked by Oct. 31.

For Test No. 9 the University of Toronto Press has generously provided a copy of *James G. Endicott: Rebel Out of China* by Stephen Endicott. James G. Endicott was a missionary in China from 1925 to 1947, a leader of the international peace movement and controversial figure. Entries must be postmarked on or before Feb. 28.

Address entries to: The Graduate Test, Department of Information Services, University of Toronto, Toronto, M5S 1A1. And please don't forget to include your name and address.

ACROSS

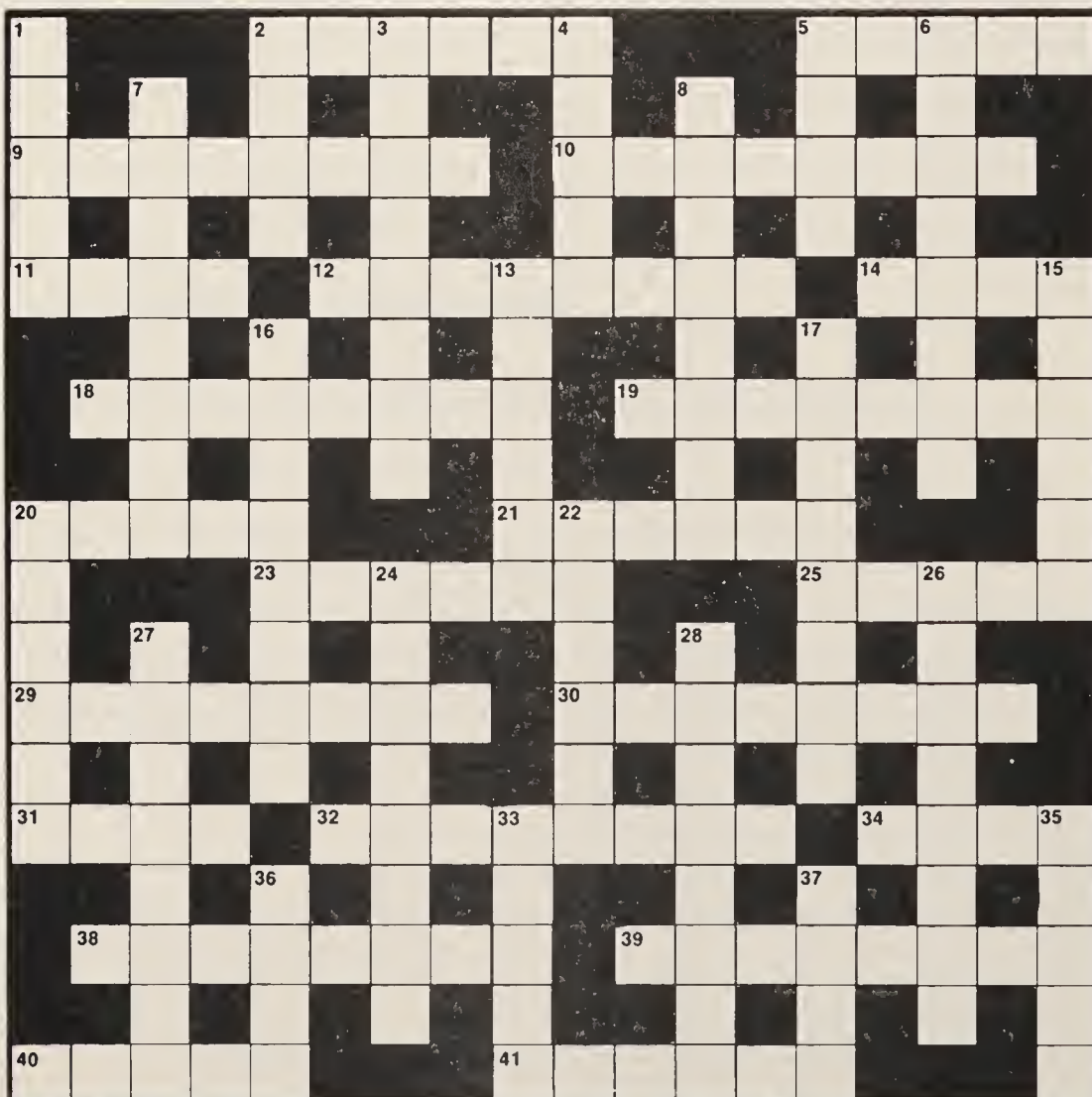
2. Means of escape in mass excursion (6)

5. Attempt to go before street meeting (5)
9. Span in to Cain turning in lawless fashion (8)
10. About a politician not to overlook (8)
11. Rational sound of French river (4)
12. A purchase order, the car manufacturer is saying (8)
14. I perform before the end of final image (4)
18. It sails to school, owner having overlooked the nadir (8)
19. Nine cats dancing — are they from B.C. (8)
20. Concerning the first at that place (5)
21. Effects good reasons (6)
23. Corpulent number to prepare for slaughter (6)
25. Run away from an antelope (5)
29. Upset the tart (8)
30. Growth that is around cranes' construction (8)
31. Mischievous elf — he slides across the ice (4)
32. Players arranged about half of it for ancient instrument (8)

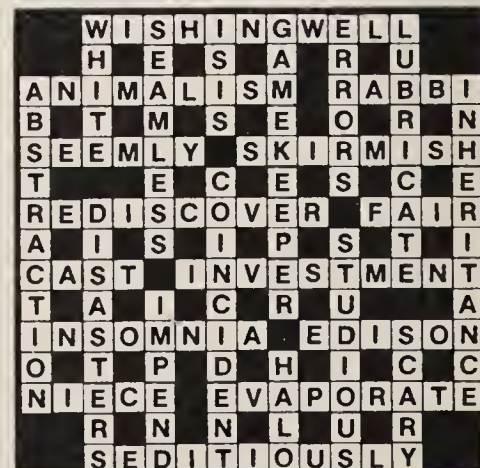
34. Dwell on something with strings attached (4)
38. Made precious finish with each colour (8)
39. Odd transgression: nut returned silver (8)
40. Doyle made a cry (5)
41. Eleven lyrics excerpted smoothly (8)

DOWN

1. A service to collect (5)
2, 16, 20. Repeat performance at the circus? (4,4,4,3,3)
3. Falling when taking drugs (8)
4. Right around (5)
5. In emotion turned up the volume (4)
6. Flexible furnishing (8)
7. Crustacean is bare without salt (8)
8. Game is in moving pictures (8)
13. Three times during the fourth ricercar (6)
15. Overwhelming desire to do with a source of light (6)
16. See 2 down
17. Beer makes young Simard slip up (8)
22. Rub oil into an insanity (6)
24. Certain, after rate adjustment, that it has great value (8)
26. Stole cab, crashed into barricade (8)
27. It might sting Iran and Chad into conflict (8)
28. Petty officer holding one in contempt: it stings (8)
33. Shelf for unfinished account book (5)
35. Avoid sound of Georgian Bay (5)
36. You dig it the best way (4)
37. Take the top off bug and fly repellent (4)



Solution to The Graduate Test No. 8



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